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Supreme Court, U.S.
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No. _____

IN THE

Supreme Court of the United States

OCTOBER TERM, 1988

THE CAMBRIDGE WIRE CLOTH COMPANY,
Petitioner,

v.

THE LAITRAM CORPORATION and INTRALOX, INC.,
Respondents.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Did the U.S. Court of Appeals for the Federal Circuit exceed the bounds of its authority under Fed. R. Civ. P. 52(a) by disregarding the clearly erroneous standard for review of the district court's factual determinations, failing to give due regard to the trial court's opportunity to judge the credibility of the witnesses, improperly engaging in *de novo* fact finding and substituting its own findings of fact for those found by the district court?*

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*This question should be considered in the patent context of this case and is thus of particular importance since the Federal Circuit is the sole appellate interpreter of the entire body of patent cases. The Federal Circuit's departure from the accepted standards of judicial review could set a precedent effectively changing the standard of review in patent cases.

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Opinion Below

The opinion of the Court of Appeals for the Federal Circuit (appendix, 1a-51a) is reported at 863 F.2d 855 (Fed. Cir. 1988). The decision of the U.S. Court of Appeals for the Federal Circuit denying Petitioner's petition for rehearing (appendix, 53a-54a) is unreported. The decision of the United States Court of Appeals for the Federal

Circuit denying Petitioner's suggestion for a rehearing in banc (appendix, 55a) is unreported. The District Court opinion (appendix, 56a-87a) is reported at 6 U.S.P.Q.2d 1778 (D. Md. 1987).

Jurisdiction

The opinion and judgment of the United States Court of Appeals for the Federal Circuit was entered on December 12, 1988 (issued as mandate, Fedruary 1, 1989).

The decision of the United States Court of Appeals for the Federal Circuit denying Petitioner's request for rehearing was filed on January 25, 1989.

The decision of the United States Court of Appeals for the Federal Circuit denying Petitioner's suggestion for rehearing in banc was filed on February 9, 1989.

This Petition is filed within 60 days from the date that the decision denying the petition for rehearing was entered.

The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

Statutes and Rules Involved

This Petition derives from the trial court's finding of non-infringement under 35 U.S.C. § 271 (appendix, 88a-89a) in connection with Respondent's suit for patent infringement and charge of contempt. The Court of Appeals for the Federal Circuit reversed the finding of non-infringement and remanded the case to the District Court to determine the issue of contempt. In so doing, the Court of Appeals for the Federal Circuit did not apply or follow the standards of Fed. R. Civ. P. 52(a) (appendix, 90a-91a) which require that the findings of fact of a district court not be set aside unless

they are found to be clearly erroneous and that due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses.

STATEMENT OF THE CASE

Introduction

The distinct roles of the United States courts of appeal and of the United States district courts are fundamental and important concepts in American jurisprudence. Assuring the proper bounds and responsibilities of the courts is essential to the concept of fair play and substantial justice for litigants. Fed. R. Civ. P. 52(a) clearly delineates the proper bounds of appellate review of a district court decision, specifically mentioning the deference which must be paid to the finder of fact and stating that the facts as found by a district court should not be set aside unless

clearly erroneous. The consequence of the Federal Circuit's failure to follow the standards of Fed. R. Civ. P. 52(a) is of particular concern in view of the Federal Circuit's unique jurisdictional role as the sole appellate interpreter of all cases arising under the patent laws. 28 U.S.C. § 1295. If the Federal Circuit's decision is allowed to stand, such will act as precedent for and actually create a substantially different standard of appellate review for cases within the Federal Circuit's jurisdiction as distinguished from all other types of cases. Such was not the intent of Congress in creating the Court of Appeals for the Federal Circuit. House Report No. 97-312, 97th Cong., 1st Session (1981) (appendix, 92a-98a), states that patent cases are to be reviewed in the same manner as with other appeals. The

Fed. R. Civ. P. 52(a) standard of appellate review explained by this Court in *Anderson v. City of Bessemer City, North Carolina*, 470 U.S. 564, 574 (1985), have not been followed by the Federal Circuit. In *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986), this Court reversed the Federal Circuit for its failure to follow Fed. R. Civ. P. 52(a). In the present case, the Federal Circuit set aside the facts as found by the United States District Court for the District of Maryland, without application of the clearly erroneous standard of Fed. R. Civ. P. 52(a). The Court of Appeals engaged in *de novo* fact finding, choosing between conflicting facts, and making its own credibility determinations. In so doing, the Federal Circuit has not only decided a federal question in conflict with its own precedents and the decisions

of this Court, it has so departed from the accepted and usual course of judicial proceedings as to call for an exercise of this Court's power of supervision.

Background

An understanding of the background of this matter is essential to an understanding of the clear error committed by the Federal Circuit. The parties, Cambridge Wire Cloth Company ("CWC")[1] and The Laitram Corporation and Intralox, Inc. (collectively "Laitram"), are competitors in the manufacture and sale of conveyor belting. They have a lengthy litigation history with which the District Court for the District of Maryland is intimately familiar.

In 1983, Laitram initiated a law suit against CWC alleging infringement of four

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[1]CWC has no parent companies, subsidiaries or affiliates.

U.S. patents, U.S. Patent Nos. 3,870,141 ("the '141 patent"), 4,051,949 ("the '949 patent"), Re.30,341 ("the '341 patent"), and 4,159,763 ("the '763 patent"). After a nine-day trial ("the 1985 trial") Judge Smalkin[2] held that all four patents were valid and infringed and awarded Laitram damages and injunctive relief ("the 1985 decision"). The 1985 decision was based on the opinions of experts, consideration of conflicting evidence, and, most importantly, the testimony of the inventor as to what he considered to be his inventions.

The 1985 decision was upheld on appeal to the Federal Circuit which found no legal or factual error by the trial

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[2]At the time of the 1985 trial, Judge Smalkin was a Magistrate. He has heard all of the parties' several proceedings below and is, therefore, uniquely familiar with the parties and the facts in dispute.

court. CWC petitioned for certiorari and such was denied.

After careful study of the 1985 decision and in reliance on the holdings therein, CWC carefully undertook to redesign the infringing device (known as CAM-CLEAN I) and produced a new module known as CAM-CLEAN II, which CWC believed avoided Laitram's patents as interpreted in the 1985 decision. In early 1986, CWC moved the trial court (Judge Smalkin) to modify the injunction which resulted from the 1985 decision so as to exclude CAM-CLEAN II. Judge Smalkin denied the motion and indicated that CWC was free to bring a separate action for declaratory judgment. In early November 1986, CWC instituted a suit for declaratory judgment that its CAM-CLEAN II did not infringe. Laitram moved to dismiss on the basis that it had not threatened CWC

with an infringement action on CAM-CLEAN II and Judge Smalkin granted Laitram's motion.

After CWC began to manufacture CAM-CLEAN II, Laitram filed a new lawsuit alleging patent infringement and requesting a preliminary injunction ("the 1987 lawsuit").[3] The case was tried before Judge Smalkin who by then was intimately familiar with the facts, having been involved with the continuum of the dealings between CWC and Laitram from the first trial, through CWC's attempt to have the injunction modified, to CWC's attempt to obtain declaratory relief, to the eventual charge of infringement of CAM-CLEAN II. The

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[3]The 1987 lawsuit involved three of the four patents of the 1985 trial, namely, the '141 patent, the '949 patent and the '341 patent. Federal jurisdiction was based on 28 U.S.C. § 1338.

essential question addressed by Judge Smalkin was whether Laitram had proved that CWC's redesigned CAM-CLEAN II infringed the three patents. After hearing testimony from CWC's and Laitram's expert witnesses, reviewing critical evidence of test results, studying numerous exhibits, considering the inventor's 1985 testimony[4] and his own prior opinion in the 1985 decision, Judge Smalkin held that Laitram failed to carry its burden of proof. Notwithstanding the trial court's unique familiarity with the facts of the case, the trial court's interpretation of and reliance upon the inventor's prior

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[4]Laitram did not call the inventor as a witness at the 1987 trial, since the position that Laitram was taking was completely at odds with the inventor's previous testimony. Judge Smalkin was so surprised by this that he openly expressed his incredulity as to Laitram's shift in position.

testimony, its weighing of the experts' evidence and credibility, its clear understanding of the issues and facts from prior testimony in the 1985 trial, and notwithstanding the fact that it is a well-established principle that infringement is a question of fact, the Court of Appeals for the Federal Circuit reversed the findings of the trial court. In so doing, the Federal Circuit disregarded the trial court's findings of fact, disregarded the inventor's prior testimony, made its own findings of fact and its own determinations of credibility and probative value of evidence.

Nowhere in the Federal Circuit's decision is Fed. R. Civ. P. 52(a) mentioned. While the Federal Circuit held that the ultimate finding of non-infringement (as to the '141 patent and by implication the '949 patent) was

clearly erroneous, (appendix, 11a), the clearly erroneous standard was never applied to the factual determinations of the district court. Rather, the Federal Circuit replaced the factual determinations of the district court with its own. Similarly, while the Federal Circuit purports to rest its decision on errors of law and purports to accept the basic facts found by the district court, (appendix, 8a, 14a, 46a), it is clear that the Court did not base its decision on errors of law and did not accept the facts decided below. Rather, the Federal Circuit sifted through the evidence, decided between conflicting facts of record, and improperly disregarded the trial court's opportunity to judge the credibility of the witnesses and the probative value of test results. Instead of accepting the facts as determined

below, the Federal Circuit substituted its own findings of facts for those of the district court.

REASONS FOR GRANTING THE WRIT

This Petition involves issues of great consequence to the proper administration of justice by the courts of the United States. In particular, the integrity of the proper standard of review in patent cases is at stake. These issues transcend the particular commercial controversies between the parties and highlight the injustice which results when an appellate court usurps the role of a trial court. In this case, the Federal Circuit disregarded the mandate of Fed. R. Civ. P. 52(a), the clear precedent of the Supreme Court, and its own precedent. This Petition not only raises the important issue of whether the Federal Circuit failed to follow such

precedents, it raises a broader issue of perhaps greater consequence, namely, whether the standards of review of patent cases (here, a finding of non-infringement) should be different than those applied in other types of cases. It is submitted that the Federal Circuit should be required to follow the established standards of judicial review. The Federal Circuit's departure from the accepted and usual course of judicial proceedings is surprisingly clear, as will be evident from the following discussion.

The Federal Circuit's Findings of Fact: The '341 Patent

The Court of Appeals' error with regard to the '341 patent is apparent. The question before the trial court was whether CWC's sale of CAM-CLEAN II with a circular shaft with keyways constituted

contributory infringement of claim 1 of the '341 patent under the doctrine of equivalents. The claim is reproduced in the Federal Circuit opinion at appendix, 31a.

A district court's determination of patent infringement is a question of fact. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983). Determining infringement under the doctrine of equivalents is also a question of fact. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 609 (1950).

> Proof can be made in any form: through testimony of experts or others versed in the technology; by documents, including texts and treatises; and, of course, by the disclosures of the prior art. Like any other issue of fact, final determination requires a balancing of credibility, persuasiveness and weight of evidence. It is to be decided by the trial

> court and that court's decision, under general principles of appellate review, should not be disturbed unless clearly erroneous. Particularly is this so in a field where so much depends upon familiarity with specific scientific problems and principles not usually contained in the general storehouse of knowledge and experience.

339 U.S. at 609-610. Under the doctrine of equivalents, a factual determination is made as to whether a particular device, while not encompassed by literally on the patent claims, "performs substantially the same function in substantially the same way to obtain the same result." 339 U.S. at 608.

The critical claim language of the '341 patent concerned the claim to a shaft which, inter alia, was "substantially uniform in cross section and non-circular." The question before the trial court was where the circular

shaft with keyways of CAM-CLEAN II infringed the claim of the '341 patent under the doctrine of equivalents. The trial court's consideration of the proper application of the doctrine of equivalents, was facilitated by the inventor's own testimony in the 1985 trial as to what his invention was and why such was patentable. In the 1985 trial, the trial court considered the question of whether the '341 patent was valid in view of certain prior art. In attempting to distinguish the prior art and advise the trial court as to why his invention was patentable, the inventor distinguished his invention from the very device which CWC used in its CAM-CLEAN II, namely, a circular shaft with keyways.[5] Notwithstanding the inventor's

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[5]CWC had been using a circular shaft with keyways at the time of the 1985 trial and such was not even accused of infringement at that

testimony to the contrary in the 1985 trial, in the 1987 lawsuit Laitram attempted to assert that the '341 patent did cover a circular shaft with keyways. Judge Smalkin was so shocked at this change in position that he commented at trial, "didn't he [the inventor, Mr. Lapeyre] come in [to the 1985 trial] and say that [the idea of the '341 patent was to get away from keys] or was I hallucinating ...." Judge Smalkin, who had heard the inventor in the prior trial, was not going to ignore such a blatant change in position and such formed the basis of his holding that CAM-CLEAN II did not infringe. The trial court could not have been more clear, noting that its holding was

> consistent with Mr. Lapeyre's testimony [in the 1985 trial]

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time, obviously because Laitram and the inventor did not believe that it infringed.

> and I find that a round shaft with keys is essentially a circular shaft. It is not a noncircular shaft, as that is used in 341, as the inventor himself views what is a circular and non-circular shaft; and I think that the resolution of this is clear and the inventiveness in 341 was putting together the square shaft or other regular polygonal shaft, which gives you a very positive drive mechanism....

Continuing, the court noted:

> I think that it would be a result that would be inequitable and not in conformity with the evidence that has already been laid before the Court and therefore would not be a sustainable result for me to say now, that, oh, yes, well, the circular shaft with keys is the functional equivalent of a square shaft and therefore the circular shaft with keys infringes. That would be an inequitable result and one that is not allowed, given the fact that I think it is fair to estop the Plaintiff from adopting that position in light of the history of the 3126 [1985]

> case, the testimony of Mr. Lapeyre in that case, and my findings with regard to this issue.

In fact, the trial court pointed to a particular page in the testimony in the 1985 trial as an example of estoppel which limited the scope of application of the doctrine of equivalents (citing page 59 of the transcript in the 1985 trial). Notwithstanding the trial court's findings of fact based on its knowledge and intimate familiarity with the testimony and facts presented to it in both the 1987 lawsuit and 1985 trial, the Court of Appeals rejected the District Court's finding as to the meaning of the inventor's testimony. Clearly, there was a difference between the Court of Appeals' interpretation as to what the inventor was referring to in his testimony and that of the trial court

which actually heard the testimony. The trial court found that in his prior testimony (at page 59 of the transcript) the inventor had explained the nature of his invention and why such was patentable over the very device, i.e., a round shaft with keys, which was accused in the 1987 lawsuit. The Court of Appeals, on the other hand, found as a fact that the inventor's testimony dealt only with the inventor's reasons for selecting a square shaft and square bore sprockets, as a preferred, commercial embodiment rather than dealing with defining his invention. The difference in interpretation of the inventor's testimony was critical to the different results reached by the trial court and the Court of Appeals. The trial court was in the best position to know the proper interpretation as it had heard the entire testimony and knew the

context of such testimony. Quite simply, the Court of Appeals did not hear the entire trial testimony of the inventor and was therefore not in a position to properly interpret the testimony appearing on page 59. This is the function of the trial court and the trial court correctly carried out that function. Even if one were to argue that the testimony may subject to two permissible interpretations, in such instances the fact finder's choice between them cannot be clearly erroneous. *Anderson v. City of Bessemer City, North Carolina*, 470 U.S. 564, 574 (1985). The Court of Appeals' departure from the usual course of judicial conduct is made clear in its holding,

> If the inventor had led the Court to sustain claim 1 of the patent in the first trial on the basis that claim 1 must be limited to

> noncircular shafts that are square or otherwise polygonal in cross section, a judicial estoppel might have precluded any change from that position.... As above indicated, however, we can find no indication in the record that that is what happened, or could have happened, here.

Appendix, 47a-48a (Emphasis original). This holding by the Federal Circuit is inconsistent with the facts found by Judge Smalkin in which he clearly articulated that the inventor did lead him to believe that claim 1 did not include circular shafts with keyways and therefore did not infringe. His finding was based on his interpretation and weighing of the facts. The trial court's factual determination should have been, but was not, judged against the clearly erroneous standard of Fed. R. Civ. P. 52(a). The Court of Appeals committed clear error in not following the proper

standard and has so far departed from the accepted and usual course of judicial proceedings as to call for an exercise of this Court's power of supervision.

The Federal Circuit's Findings of Fact: The '141 and '949 Patents[6]

As with the '341 patent, the trial court was faced with a factual determination as to whether CAM-CLEAN II infringed the '141 patent under the doctrine of equivalents, i.e., did it perform substantially the same function in substantially the same way to obtain the same result. The claim at issue is reproduced at appendix 8a-9a.

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[6]The Federal Circuit's findings and error with respect to the '949 patent were dependent upon its findings with respect to the '141 patent and therefore only a discussion of the Federal Circuit's error with respect to the '141 patent is required for purposes of this Petition (appendix, 28a-31a).

The key issue in determining whether there was infringement of the '141 patent centered on whether the link ends of the accused device were spaced apart "by a distance slightly greater than the width." The issue required a factual determination of whether or not interfitting link ends of a modular conveyor in which the modules are held together with a pivot rod were of a thickness "slightly greater" than the spacing between the link ends. The term "slightly greater" was interpreted in terms of its purpose, i.e., spacing that would "minimize bending and maximize shear" (appendix, 12a).

The trial court focused on the question of whether CAM-CLEAN II infringed under the doctrine of equivalents. First, the trial court was clearly impressed with the differences

between the accused and patented devices (the court found that the spacing of 135% could not be considered to be "slightly greater" as described in the patent) (appendix, 78a-80a). These differences formed a basis for a finding of non-infringement under the doctrine of equivalents (appendix, 83a). A factual determination that the distance was more than "slightly greater" was a determination that the accused device did not operate "substantially in the same way" as the device in the patent, i.e., its operation did not rely on a distance which was "slightly greater." Secondly, the trial court considered whether the accused device performed substantially the same function to obtain the same result as that described in the patent. In so doing, the trial court found <u>as a fact</u> that the accused device did not

minimize bending and maximize shear which was the intended function and result of the patented device.

While the Court of Appeals infers that the district court did not properly focus on the issue of infringement under the doctrine of equivalents, it is clear from the trial court's entire opinion that it was primarily concerned with the doctrine of equivalents (appendix, 77a).

There can be no doubt as to the trial court's inquiry. Referring to the inventor's testimony, the trial court stated,

> the more shear you have; and the shear resistance is more efficient than bending resistance and is what you want to maximize strength.
>
> This is what he said at the [1985] trial and this is what I relied upon to say that what he had was, A, patentable over the prior art and B, that the Cam-Clean [I] product that was then extant

> infringed the patent; and the point there was to minimize the bending forces, to maximize the shear and to have as little exposed rod as possible. And this in my judgment is what allowed there to be infringement by equivalence even though there was not necessarily literal infringement in the first claim patent [in the 1985 trial].

Appendix, 74a-75a.

The trial court's finding of fact is clear as to whether the accused device functioned in the same way to achieve the same result as the device described in the patent. The trial court heard testimony from both Laitram's and CWC's expert and other witnesses and, after hearing such testimony and having an opportunity to weigh the credibility of the witnesses, the trial court properly believed CWC's witness that the tests conducted on the devices were probative to show that the accused device did not

minimize bending or maximize shear. This was a finding of fact of the trial court which led to its decision.

The trial court stated,

> To me the telling proof is made up in two ways. Number one, the tests, in my opinion -- although the difference is admittedly small at working loads, at the higher loads, where you test to ascertain true strength of the material -- in my judgment, the tests show that the Cam-Clean II is less resistant to the bending and elongation forces than the original Cam-Clean; but that is not really the most important question.
>
> The most important question is, what is the spacing of the redesign Cam-Clean relative to the width of the link ends? Therefore, I had Dr. Butler measure or mike [sic, mic] the link ends of the Cam-Clean II; and he ascertained that expressing the spacing as percentage of the link end width it came to 135.85 percent. That is, there is a 35 percent greater spacing than the width of the link end.

Appendix, 78a-79a.

The trial court went on to indicate that the inventor himself stated in the first trial that the lack of spacing was what made his invention patentable and what made the CAM-CLEAN product infringe. The trial court stated:

> Mr. Lapeyre [the inventor] made a lot of that [the spacing] at the [1985] trial and said, that is the thing that makes his invention patentable and it is the thing that makes the Cam-Clean invention infringe, the original Cam-Clean infringe on his, because when you look at the shear inventing [sic, bending] forces were actually transmitted to the rod, you would find that the spacing was not significantly greater than the width of the link end itself.

Appendix, 82a.

What the trial court was saying is that in addition to the tests showing that the accused device did not operate in substantially the same way to achieve the same result as the patented

invention, i.e., to minimize bending and maximize shear, it also did not perform substantially the same function. The invention in the '141 patent performed the function of minimizing bending and maximizing shear through a spacing which was only "slightly greater." Even assuming *arguendo* that the CAM-CLEAN II device performed the same function, i.e., minimized bending and maximized shear, it could not have performed it the same way (through spacing which was slightly greater) since spacing was more than slightly greater. Such were the findings of fact of the trial court based on the inventor's prior testimony and based on the tests and expert testimony which it heard.

The Federal Circuit's error is manifested in the inconsistency of its decision. On the one hand, the Federal

Circuit stated that the district court did not apply its criterion of whether the accused device "minimized bending/maximized shear." After so stating, however, the Court of Appeals went on to criticize the very evidence which the district court did consider in determining whether the accused device minimized bending and maximized shear. As discussed above, the district court relied on tests which showed that the accused device did not minimize bending and maximize shear. After listening to testimony of witnesses on both sides, Judge Smalkin made a factual determination that the tests were probative in showing that the accused device did not minimize bending and maximize shear. The Court of Appeals, without the benefit of actually hearing the expert witnesses, found that the

tests were "non-probative." (appendix, 15a). Such a finding clearly should be based on evaluation of witness testimony and other evidence at trial.

A review of its reasons for rejecting the probative value of the tests starkly reveals the Federal Circuit's fact finding and its failure to apply the clearly erroneous standard of Fed. R. Civ. P. 52(a).

The first reason the Court of Appeals held the tests were non-probative was that they subjected CAM-CLEAN II to a force more than three times the 1500 pounds rated load for which they are warranted (appendix, 15a). This testing methodology was adequately explained in the trial court decision but such explanation was disregarded by the Court of Appeals. It was shown at trial that Laitram also tested the modules well

above the rated load. The trial court determined that the tests used higher loads to "ascertain the true strength of the material." This determination was made and credibility given the tests after the trial court had heard evidence (including expert testimony) about the types of tests conducted on the modules in issue. Two of CWC's witnesses explained in detail at the trial that it was absolutely necessary to test at higher loads and that they never tested at working loads because such tests would be meaningless. The tests are made at higher load for a number of reasons, not the least of which is to simulate "creep" of the plastic material. This was testified to at length by the engineer who assisted in designing CAM-CLEAN II and by an expert witness at the trial, Dr. Butler.

Because the Court of Appeals did not hear the testimony at either of the trials, it misinterpreted the test results presented at each and denigrated the reliability and usefulness of the tests. The trial court was well aware of the significance of the tests after it heard testimony in the second trial and had the tests explained by the expert. The trial judge heard the testimony, weighed the evidence and decided that the tests conducted for the second trial were supportive of a conclusion of noninfringement. The Court of Appeals simply dismissed this factual determination and substituted its own.

The second reason the Court of Appeals found the tests "non-probative" was that the difference in elongation was quoted as being "admittedly small" (appendix, 16a). This quote is not complete. In

fact, the evidence showed that the difference was "admittedly small at working loads" (appendix, 78a). CWC's witnesses testified that the working load is not relevant in connection with the tests.

The Court of Appeals' third objection to the tests was that there is nothing in the "slightly greater" limitation dealing with any "strength of the material" criterion (appendix, 16a). However, the whole purpose of "maximized shear/minimized bending" is to control the strength of the modules, a fact of record which the trial court clearly understood. This fact determination is crucial to a conclusion of whether or not the two devices "function in substantially the same way to achieve the same result." The nonachievement of "maximized shear/minimized bending" by

CAM-CLEAN II was a fact determined by the trial court on the basis of conflicting evidence.

The Court of Appeals' fourth reason for finding the tests non-probative was its assertion that it was irrelevant whether CAM-CLEAN II is less resistant if equivalency is met (appendix, 16a). This objection to the tests begs the issue and illustrates the Court of Appeals' total disregard for the findings of the district court. Clearly, the trial court was led to the determination that there was no infringement by the doctrine of equivalents due to the factual finding that CAM-CLEAN II was less resistant. To say that the product's lesser resistance is irrelevant overlooks the importance of factual issues in a doctrine of equivalents evaluation as set forth in *Graver Tank*.

The fifth assertion made by the Court of Appeals was that the tests did not show that the CAM-CLEAN II redesign sufficiently escaped the equivalency formulation set out in *Graver Tank*. Again, the appellate opinion on this point evaluates testimony, weighs evidence and clearly makes an impermissible *de novo* finding of the facts of the case.

Testimony at the trial showed that CAM-CLEAN II was molded with a spacing substantially greater than the functional spacing of the patented devices so that shear would not be maximized and bending would not be minimized. In the 1985 trial Laitram did not assert its "slightly greater" claims against CWC's modules having Delta clearances of 70/1000 or 112/1000 of an inch. The Delta clearance of CAM-CLEAN II is

80/1000 inches. Discounting all of these facts, the Court of Appeals credited the argument of Laitram's counsel and incorrectly stated that CWC does not dispute "Laitram's assertion that CWC shaved only 11/1000 of an inch off its link ends" (appendix, 19a). CWC did dispute Laitram's and the Federal Circuit's characterization of the significant increase in the Delta clearance of the CAM-CLEAN II as a mere shaving. The trial court found that CAM-CLEAN II is less resistant to the bending and elongation forces because of the increase in spacing. The fact that CAM-CLEAN II is significantly weaker and pays other penalties for not infringing is found in the testimony, e.g., CAM-CLEAN II was 10% weaker. Whether or not this is "significantly weaker," i.e., such that bending would not be minimized, is a

matter for determination by the trier of fact.

The Court of Appeals does not discuss these facts nor explain how these findings of fact by the lower court are clearly erroneous, as required by Fed. R. Civ. P. 52(a) and *Dennison Manufacturing Co. v. Panduit Corp.* Rather, after engaging in its own fact finding, the Court of Appeals simply stated that CWC has not shown that CAM-CLEAN II does not perform substantially the same function in substantially the same way to obtain the same result.[7]

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[7]The Federal Circuit opinion seems to indicate that it is Cambridge's burden to show that CAM-CLEAN II does not perform in "substantially the same way." This miscasts the burden of proving infringement, since the burden of showing that the trial court's findings were clearly erroneous was on Laitram, not Cambridge. *Medtronic, Inc. v. Daig Corp.*, 789 F.2d 903 (Fed. Cir. 1986).

The Court of Appeals' fact finding is obvious in the following statement:

> It is clear that a module in which the spacing was so great as to have no or very little effect in minimizing bending and maximizing shear would not accomplish the purpose attributed to the "slightly greater" limitation, but that is not this case. Nor did the district court find, as it could not on this record, that CAM-CLEAN II's spacing had a minimize bending/ maximize shear effect substantially different from that intended by the limitation, or from that of CAM-CLEAN I, or from that of Laitram's product.

Appendix, 22a-23a.

In fact, the district court did find that the spacing had an effect substantially different from that claimed in Laitram's patent. The basis for the trial court's finding of noninfringement was that the spacing was too great to fall within the limits of equivalency.

The Court of Appeals' Fact Finding and Rejection of the Facts Found by the Trial Court Is Far Beyond the Accepted and Usual Course of Judicial Proceedings

From the above, it is abundantly clear that the Court of Appeals engaged in its own fact finding and usurped the proper role of the trial court. The fact that the Court of Appeals would incorrectly interpret the facts is understandable since it did not have the vantage point of the trial court in viewing the evidence and observing the demeanor of the witnesses. This is precisely why it is universally held that the function of the Court of Appeals is quite different than that of a trial court.

The impropriety of such fact finding is well established. Fed. R. Civ. P. 52(a) states in pertinent part:

> Findings of fact, whether based on oral or documentary evidence, shall not be set

> aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses.

The Court of Appeals not only disregarded and failed to mention Fed. R. Civ. P. 52(a) in its analysis, its decision is clearly in contravention of that rule. The Supreme Court has had opportunity to define the boundaries of the clearly erroneous standard of Fed. R. Civ. P. 52(a), stating:

> This standard plainly does not entitle a reviewing court to reverse the finding of the trier of fact simply because it is convinced that it would have decided the case differently. The reviewing court oversteps the bounds of its duty under Rule 52(a) if it undertakes to duplicate the role of the lower court. "In applying the clearly erroneous standard to the findings of a district court sitting without a jury, appellate courts must constantly have in mind that the function is not to decide factual issues *de novo*."

Anderson v. City of Bessemer City, North Carolina, 470 U.S. at 573.

The clearly erroneous standard is to be applied to findings of infringement under the doctrine of equivalents since a finding of equivalents is a determination of fact. *Graver Tank*, 339 U.S. at 609 - 610.

Even where there are two permissible views of the evidence, the fact finder's choice between them cannot be clearly erroneous. *Anderson* at 470 U.S. at 574, quoting *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 (1948). Further, as with any issues of fact, final determination on equivalents requires a balancing of credibility, persuasiveness and weight of evidence. 339 U.S. at 609-610. The trial court determined that CWC's CAM-CLEAN II did not infringe Laitram's '141 and '949

patents under the doctrine of equivalents. This determination was based on facts found by the trial court which showed that since CAM-CLEAN II does not maximize shear and minimize bending, it does not "function in the same way" to meet the requirements of the claims of the patents at issue.

An interpretation of a term such as "slightly greater than" which formed the basis of the inquiry in connection with the '141 and '949 patents is particularly well suited to a trial court's judgment. As stated in *SRI International v. Matsushita Electric Corporation of America*, 775 F.2d 1107, 1124 (Fed. Cir. 1985),

> The test mandated in *Graver Tank* leaves room for the fact finder's application to varying circumstances. Words like "so far," "principle," and "substantially" are not subject to rigid pre-

> definition; nor will the "principle" of a structural invention be always and immediately apparent. It is precisely the role of a trial to apply the test in light of all the live testimony and physical evidence adduced.

(Emphasis added).

The trial court further found the '341 patent not infringed because the testimony of the inventor and the position taken by Laitram at an earlier trial before the same court, clearly showed that CWC's round bore shaft with keyway did not infringe under the doctrine of equivalents.

The Federal Circuit's decision in this case was at odds not only with the clear dictates of the Supreme Court but with its own precedent as well. As stated by the Court of Appeals for the Federal Circuit in *Rolls-Royce Ltd. v. GTE*

Valeron Corp., 800 F.2d 1101 (Fed. Cir. 1986):

> [An appellate] court does not sit to reweigh the evidence presented to the district court, nor will it draw its own inferences, nor make its own fact findings. It will not reverse unless the inferences drawn and facts found by the trial court are on the full record so unsupported as to have been the result of clear error.

Rolls-Royce, 800 F.2d at 1110.

The Federal Circuit's rejection of the findings of the trial court were clearly not based on legal issues. Rather, its rejection was based on fact finding.

Recently, the Court of Appeals for the Federal Circuit had occasion to comment on this very issue, stating

> This is the eighty-fourth case in which the court has been forced, *ad nauseam*, to remind counsel that it is a court of review, i.e., that it will not find the facts *de novo*, that it is not a place for counsel to retry their

> cases, that its judges do not participate as advocates to fill gaps left by counsel at trial, and that the function of appellant's counsel in relation to the district court's findings is to show that those findings are clearly erroneous or, if correct, cannot support the district court's legal conclusion.

Fromson v. Western Litho Plate and Supply Co., 853 F.2d 1568, 1570 (Fed. Cir. 1988). The Court of Appeals for the Federal Circuit continued, noting:

> Western, in addition, seeks its fresh set of findings of fact and conclusions in frequent disregard not only of the district court's findings and conclusions, but of the underlying evidentiary support cited by the court.

853 F.2d. at 1570.

In creating the Federal Circuit, Congress focused on the proper role of the Court as a court of appeals as distinguished from a trier of fact. The intentions of Congress in creating the

Court of Appeals for the Federal Circuit are clear from the House Report. That report includes a discussion on the use of technical advisers by the old Court of Customs and Patent Appeals for appeals from the Patent Office, as compared to appeals in infringement cases in the new Federal Court of Appeals for the Federal Circuit. The report states,

> [T]o use these [technical] advisers in adversary patent infringement cases and have them review and assess the technical aspects of the evidence, as developed by the sworn testimony of witnesses and as covered by the findings of fact entered by the trial judge, is quite a different matter. It is well established that factual issues in a patent case must be tried and decided by the trial judge or a jury in precisely the same manner as such issues are tried in any other kind of a lawsuit. The technical aspects of a patent case are factual issues, and patent cases are reviewed in

> the circuit courts of appeals in the same manner as with other appeals.
>
> Thus, it is the settled practice of the circuit courts of appeals in patent cases to honor and respect Rule 52(a) F. R. Civ. P., which provides that findings of fact may not be set aside unless clearly erroneous, giving due regard to the opportunity of the trial court to judge the credibility of witnesses. The circuit courts have repeatedly held that it is not their function to pass upon or consider de novo the evidence received at the trial or to weigh controverted evidence.

H.R. 97-312, 97th Cong., 1st Sess. (1981), pp. 37-38 (appendix, 94a-96a).

Not only has the Federal Circuit departed from the clear dictates of Fed. R. Civ. P. 52(a), its own precedent, and from the precedent of the Supreme Court, it has also departed from the express intentions of Congress in creating the Federal Circuit. If the Federal

Circuit's decision is permitted to stand, such will establish a new precedent for the standards of judicial review of patent cases.

CONCLUSION

This Court should review this case because of the importance of the issue presented in reaffirming the Federal Circuit's proper role as a court of review, not a fact finding body. Given the unique role of the Federal Circuit as sole appellate decision maker for cases arising under the patent laws, a failure of the Federal Circuit to adhere to the proper standards of appellate review could effectively establish a different standard of review for patent cases as distinguished from all other cases. The result of this case has been substantial injustice, as might be expected when a court of appeals engages in fact finding

(especially where, as here, the district court had a unique position from which to ascertain the facts). For these reasons, it is respectfully requested that this Petition for Writ of Certiorari be granted.

Respectfully submitted,
this 27th day of March, 1989.

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT
88-1209, -1210

THE LAITRAM CORPORATION and INTRALOX, INC.,

Plaintiffs-Appellants,

v.

CAMBRIDGE WIRE CLOTH COMPANY,

Defendant-Appellee.

DECIDED: December 12, 1988

Before MARKEY, Chief Judge, NICHOLS, Senior Judge, and RE, Chief Judge.*

The Laitram Corporation and Intralox, Inc. (Laitram) appeal from a judgment of the United States District Court for the District of Maryland, No. 2 83-3126, finding that the Cambridge Wire Cloth Company (CWC) did not infringe Patent Nos. 3,870,141, 4,051,949, and Re.30,341. We reverse and remand.

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*The Honorable Edward D. Re, Chief Judge of the Court of International Trade, sitting by designation.

Background

In 1983, Laitram sued CWC for infringement of U.S. Patents 3,870,141 ('141), 4,051,949 ('949), 4,159,764 ('763) and Re.30,341 ('341). The accused products were CWC's modular plastic conveyor belt (CAM-CLEAN I) and a belt drive system. In 1985, the U.S. District Court for the District of Maryland upheld the validity of the patents, found each infringed, and enjoined further infringement. Laitram Corp. v. Cambridge Wire Cloth Co., 226 USPQ 289 (D. Md. 1985), aff'd in part, rev'd in part, 785 F. 2d 292, 228 USPQ 935 (Fed. Cir.), cert. denied, 107 S.Ct. 85 (1986) (the first trial). In a thorough and comprehensive opinion, the court outlined CWC's failed effort to obtain rights to the patented invention through merger,

acquisition, or joint venture, followed by CWC's engagement of a design firm to "incorporate features similar to Laitram patents." Id. at 291. The court correctly interpreted the claims and fully described the inventions and patents in that opinion.

In mid-1986, CWC filed and the court denied a motion to exclude form the injunction a "redesigned" module (CAM-CLEAN II). In November 1986, CWC sought a judgment declaring CAM-CLEAN II non-infringing. The court dismissed that suit. When CWC began manufacture of CAM-CLEAN II, Laitram sued for infringement of claim 1 of the '141 patent, claim 21 of the '949 patent, and claim 1 of the '341 patent. Broadly, the '141 patent discloses plastic modules having links joinable by plastic rods to create a

conveyor belt; the '949 patent discloses a module with raised ribs; and the '341 patent discloses a sprocket drive system for conveyor belts.

Laitram moved for a preliminary injunction for a finding of contempt. The court consolidated all matters before it and conducted a six-hour trial on November 12, 1987.[1] In an opinion dictated from the bench, the court found that CAM-CLEAN II infringed none of the three asserted claims and denied the contempt motion.

Issues

1. Whether the district court erred in determining non-infringement of the asserted claims of the '141, '949, and

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[1]Laitram says "only minutes were allowed for consideration of the '949 and '341 issues." Because no such objection was presented to the district court, it is disregarded here.

'341 patents.

2. Whether the district court properly denied the contempt motion.

OPINION

Introduction

This appeal again illustrates one of the many difficult dichotomies that lurk in the lacunae of patent law. On one side rests the very important, statutorily-created necessity of employing the clearest possible wording in preparing the specification and claims of a patent, one of "the most difficult legal instruments to draw with accuracy."[2] On the other lies the equally important, judicially-created necessity of determining infringement without the risk of injustice that may

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[2] Sperry v. Florida, 373 U.S. 379,, 383 (1963) (quoting Topliff v. Topliff, 145 U.S. 156, 171 (1892)).

result from a blindered focus on words alone. The former, set out in 35 U.S.C. § 112, recognizes a competitor's need for precise wording as an aid in avoiding infringement. The latter is called the "doctrine of equivalents". While requiring a look at all the words while resisting their tyranny,[3] and requiring, because the claims measure the invention, a look at all claim limitations, the doctrine, in a proper case, "temper[s] unsparing logic and prevent[s] an infringer from stealing the benefits of an invention." Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 608, 85 USPQ 328 at 330 (1950)(quoting Royal Typewriter Co. v. Remington Rand, 168

[3]Rich, Escaping the Tyranny of Words--Is Evolution in Legal Thinking POssible?, 60 JPOS 271 (1978); Chafee, The Disorderly Conduct of Words, in Freedom's Prophet 35 (E. Re ed. 1981).

F.2d 691, 692, (2d Cir. 1948) (L. Hand, J.)). In that sense, the doctrine recognizes a fact of the real business world: words are not misappropriated; claimed inventions are.[4]

In the present case, the semantic antics of counsel at trial and in their briefs on appeal have obfuscated the true nature of the dispute as it must be perceived in law.[5] That obfuscation led in turn to a failure to apply the "substantially the same function in substantially the same way to obtain substantially the same result" guidance

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[4]The competing policies present in 35 USC § 112 and the doctrine of equivalents are exhaustively discussed in the additional opinions filed in Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987). In this case, it is unnecessary to repeat that discussion.

[5]Counsel for each side accuses the other of sanctionably distorting and misrepresenting the record. Each recasts arguments of the other and then attacks the recasted arguments.

of Graver Tank, 339 U.S. at 608, 85 USPQ at 330.[6]

The basic facts are either undisputed or accepted here as found by the district court. The difficulty with the appealed judgment lies in the district court's application to the facts of the law governing determinations of infringement.

1. Infringement

The '141 Patent

(a) Claim Interpretation

Claim 1 of the '141 patent reads:

> 1. A module for constructing linked structures, said module comprising in combination:
> a first plurality of link ends of substantially identical width, each being formed to circumscribe a pivotal hole, said hole of said first plurality being arranged coaxially;

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[6]The quoted phrase appears repeatedly in the district court's earlier opinion, 226 USPQ at 294, 296, 297, 301, 302, 303, and 304, but appears nowhere in the opinion in this case and is nowhere found in CWC's brief.

a second like plurality of links of substantially identical width, each being formed to circumscribe a pivotal hole, said holes of said second plurality being arranged coaxially, the axes of respective holes of both pluralities of link ends being substantially parallel; and

a plurality of spaced apart elongated members each integrally formed with and joining a pair of corresponding link ends of said first and second pluralities, said members being joined by at least one cross rib also formed integrally therewith and extending parallel to said axes;

said link ends being dimensioned and spaced apart by a distance slightly greater than said width so that said module is end-to-end reversible, so that a plurality of said modules may be engaged with each other at said ends.

It is undisputed that all limitations of the claim, save the last, read directly on CAM-CLEAN II. The district court focused on the words "slightly greater", correctly viewing that adjectival phrase as a "sloppy term"

requiring for its interpretation reference to the specification, the prosecution, and the prior litigation:

> You cannot make exactly that determination [whether "slightly greater means .2 but not .3, or .3 but not .06."]. It is not exact. It is not scientific. It is a sloppy term, has no meaning for this case outside of the claims of Patent 141, as interpreted by the prosecution of that patent in the patent office and as interpreted by the prior history of this litigation, including Mr. Lapeyre's testimony, which is what he won on in the first suit.

Having had a witness measure the link end widths and the spacing between link ends of Laitram's commercial product and of the accused CAM-CLEAN II module, the court found the spacing in the former was 106% of the width and that in the latter was 135%.[7] Deeming the latter "more than

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[7]Laitram vigorously argues "plain error" in the district court's comparison with a commercial product instead of with the claim. CWC says Laitram failed to object at trial. In view of our disposition of the appeal, we need not and do

slightly greater", the court found noninfringement.[8] As discussed below, application of the law governing infringement by equivalents renders that ultimate finding of noninfringement clearly erroneous.

The phrase "slightly greater" is not presented in a vacuum. The claim contains definitional parameters: "so that said module is end-to-end

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not treat these arguments.

[8]There are, apparently, two versions of the belt called "CAM-CLEAN II", a "light duty" and a "heavy duty perforated top" version. The district court appears to have focused only on the former, for CWC's vice-president-in-charge of redesign testified twice on direct examination that no change was "ever made in the link end spacing of the heavy duty perf [sic] from CAM CLEAN I to CAM CLEAN II", and that the only change to that version was the (irrelevant) removal of spacers on two of 24 link ends. The "perforated top" was plaintiff's exhibit 58 in the first trial and was there found to be an infringement. 226 USPQ at 304. For convenience, we employ "CAM CLEAN II" here to designate the accused product dealt with by the district court. The parties' dispute on whether certain products were or were not accused of infringement in the first and second trials must be resolved, if at all, by the district court on remand.

reversible, so that a plurality of said modules may be engaged with each other at said ends".[9] In addition, the district court properly interpreted the claim in light of the prosecution history in the first trial, defining "slightly greater" spacing in terms of its purpose, i.e., spacing that would "minimize bending and maximize shear".

Assuming, arguendo, the district court's interpretation of the phrase "slightly greater", in the second trial, as the 106% width in Laitram's product, CWC's 135% width may be seen as avoiding a finding of literal infringement. The question would remain, however, of whether CWC's 135% width constituted a

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[9]After the first trial, the district court found that the CAM-CLEAN I product met the end-to-end definitional parameter. 226 USPQ at 296. Neither "so that" was discussed in the opinion from the bench after the second trial.

change sufficient to escape a finding of infringement under the doctrine of equivalents.

(b) Doctrine of Equivalents

In the first trial, the court found that CAM-CLEAN I constituted an "infringement by equivalents of claim 1." 226 USPQ at 298. In this trial, the court's entire discussion of equivalence with respect to CAM-CLEAN II, reads:

> It is true that all that has been done in the redesign of Cam-Clean II is an alteration of the spacing, relative spacing of the link ends.
>
> That is true, but if the result is that when the patent language, the claim language is viewed in context of its prosecution history, as it has to be under the doctrine of equivalence (sic, equivalents), if the result is that even applying the doctrine of equivalence [sic] there is no longer a spacing between links that is only slightly greater than the width of the links, then there is no infringement. That is all there is to it. It is that simple.

> To me the telling proof is made up in two ways. Number one, the tests, in my opinion--although the difference is admittedly small at working loads, at the higher loads, where you would test to ascertain the true strength of the material--in my judgment the tests show that the Cam-Clean II is less resistant to the bending and elongation forces than the original Cam-Clean, but that is not real [sic] really the most important question.
>
> The most important question is, what is the spacing of the redesign Cam-Clean relative to the width of the link ends?

The foregoing application of the doctrine of equivalents is legally flawed. Having determined that all CWC did was to alter the spacing, the court did not apply its own criterion derived from the prosecution history in the earlier trial, i.e., whether the "alteration" left the spacing such that it would still achieve the "minimize bending/maximize shear" purpose the court found as the measure of the "slightly

greater" phrase in the limitation. Applied to all the basic facts, the law required a finding that the spacing in CAM-CLEAN II was the equivalent of the "slightly greater" limitation in the claim.

The "tests" relied upon by the district court were non-probative for at least five reasons: (1) they subjected the CAM-CLEAN II to a force more than three times the 1500 pounds to which such belts are subjected in use and for which they are warranted (in the prior trial, the district court correctly rejected such tests because "the belt was subjected to forces way beyond the normal range that would be applied in a working situation" and because "There is nothing in Mr. Lapeyre's patent, even when considering file wrapper estoppel, that

claims that the rod is immune to bending in his invention under extraordinary conditions")[10]; (2) the "admittedly small" difference was an elongation, at the working load, of less than 1/5 the width of a human hair; (3) there is nothing in the "slightly greater" limitation dealing with any "strength of the material" criterion; (4) whether CAM-CLEAN II is "less" resistant is irrelevant if the test of equivalency is met; and (5) the tests did nothing to show that CAM-CLEAN II had been changed sufficiently to escape the equivalency formulation set out in Graver Tank.

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[10]In the first trial, the court noted ("Furthermore") that the rod in the test was uncapped. In the present tests, the rod was capped. The court did not note that fact in the present trial, but CWC's reliance on it before us is misplaced, for that fact cannot affect the principle that infringement is not escaped by proof that the accused product is less satisfactory under extreme circumstances not met in normal use.

In applying the doctrine, the "most important question", is not "what is the spacing," but whether the spacing in the accused product is equivalent to that in the claim, i.e., whether it continues to meet the district court's "minimize bending/maximize shear" criterion. If it does, the rest of the claim being fully met, CWC's CAM-CLEAN II and the claimed invention are substantially the same, used in substantially the same way, to achieve substantially the same result.

The criterion is not "zero bending/unlimited shear." That may be an ideal condition, but it is not claimed to be achieved by the invention. See U.S. v. Telectronics, Inc., No. 87-1445/1446, slip opinion at 6-7 (Fed. Cir. 1988) ("avoid fibrous tissue formation" did not mean there could be no fibrous tissue).

CWC asserts, and cites evidence to show, only that CAM-CLEAN II is less efficient, i.e., that it does not minimize bending and maximize shear quite as much as the claimed invention does. Assuming, arguendo, the truth of that assertion, it cannot alone prevent a finding of infringement under the doctrine of equivalents. Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 901, 221 USPQ 669, 679 (Fed. Cir. 1984) ("exact identity of results is not required in establishing equivalency"). That application of the doctrine arises out of a recognition of a second real-world phenomenon: inefficient infringement is still infringement.[11]

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[11]While CWC is telling the courts that CAM-CLEAN II is inferior to CAM-CLEAN I and the claimed invention, the record contains its communications in which CWC is telling customers and potential customers that CAM-CLEAN II is "an even better product" than CAM-CLEAN I, and that

CWC does not dispute its vice president's testimony that CAM-CLEAN II performs substantially the same function to achieve substantially the same result as CAM-CLEAN I, that CWC sells CAM-CLEAN II modules as interchangeable replacements for CAM-CLEAN I, and that CWC warrants CAM-CLEAN II for use at the same maximum working strength (1550 lbs/ft) as CAM-CLEAN I. Nor does CWC dispute Laitram's assertion that CWC shaved only 11/1000 of an inch off its link ends. CWC does assert, irrelevantly in this case, that it added plastic to

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belts formed of CAM-CLEAN II modules are "engineered for maximum strength". Nowhere does the record reflect that CWC admits to the real world what it tells us in its brief in this court, i.e., that "CAM-CLEAN II is significantly weaker and it pays significant other penalties for not infringing" including "increased slop in the belt, a highly undesirable feature" (ignoring its vice-president's testimony that when the belt is "installed the slop would not be an operable factor."). The district court found, as indicated infra, that CAM-CLEAN II at operating loads was "not significantly weaker".

beef up the link ends, a change described in a deposition of CWC's vice-president as "insignificant." Most significantly, the Graver Tank formula for equivalence appears nowhere in CWC's brief and nowhere does CWC suggest, nor does it show any basis for finding, that CAM-CLEAN II does not perform "substantially the same function in substantially the same way to obtain substantially the same result."[12]

(c) Prosecution History

The district court's discussion of the prosecution history and its effect on range of equivalents to which claim 1 was entitled was this:

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[12]CWC does not argue that CAM-CLEAN II corresponds to the prior art, nor that a range of equivalents sufficient to encompass CAM-CLEAN II would encompass the prior art. Indeed, CWC's vice-president in charge of the redesign testified that CWC did not use any of the prior art in arriving at CAM-CLEAN II.

> That is, Mr. Lapeyre, although he has [sic] acknowledged as a pioneer inventor and certainly is the first person that came up with the idea of this plastic modular belting, which is a wonderful idea, nonetheless, he could not make a broad claim that would get through the patent office. He tried it. He tried a very broad claim.
>
> * * *
>
> It is true that the belt is not, at rated operating load, significantly weaker than the original Cam-Clean belt was; and if, in fact, Mr. Lapeyre were entitled to a broad claim here that covered all modular plastic belting with multiple links, then certainly the Cam-Clean II, as redesigned, would still infringe and I would so hold. But he is not entitled to a broad patent.

The "very broad claim" referred to is necessarily the broadest, i.e., claim 1 as originally filed. The amendment added "by a distance slightly greater than said width" after "apart". The court went on to cite file history arguments and the inventor's testimony in the earlier

trial, all in support of its perfectly correct determination that the purpose of spacing no more than slightly greater was to minimize bending and maximize shear.[13] It is clear that a module in which the spacing was so great as to have no or very little effect in minimizing bending and maximizing shear would not accomplish the purpose attributed to the "slightly greater" limitation, but that is not this case. Nor did the district court find, as it could not on this record, that CAM-CLEAN II's spacing had a minimize bending/maximize shear effect substantially different from that

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[13]The focus on the phrase "slightly greater" tended to obscure the importance of other claim elements contributing to minimizing of bending and the maximization of shear, "spacing" unrelated to other elements having no effect. Claim 1 was actually amended four times. Two of the intermediate amendments spoke of resistance to "bending forces". That language was deleted before allowance.

intended by the limitation, or from that of CAM-CLEAN I, or from that of Laitram's product.[14]

The court erred in treating the amendment of claim 1 and arguments in the file history as sufficient to preclude a finding of infringement under the doctrine of equivalents. It is not necessary, of course, that an inventor be entitled to a broad claim covering all possible products in a line of products before a court may award an invention

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[14]CWC's vice president in charge of its redesign effort testified that it began with a delta spacing of 112 thousandths of an inch, then reduced it to 100 thousandths, then reduced it further to the 80 thousandths finally chosen as the spacing in CAM-CLEAN II, a classic exposition of the process by which one may proceed in appropriating an invention (albeit with a little-less-than-perfect embodiment) in the belief that one is evading words in a claim. In opposing Laitram's motion for preliminary injunction, CWC submitted a drawing of the intermediate, non-chosen version with 100 thousandths spacing.

pioneer status,[15] or a range of equivalents sufficient to encompass a particular accused product. It is commonplace for claims to inventions, pioneer and non-pioneer, to be amended during prosecution. Though the "area of equivalence" may vary, the doctrine of equivalents is applicable to both, Graver

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[15]If the district court meant to find that claim 1 set forth a pioneer invention, it should have awarded that invention a very wide range of equivalents. Laitram included in the appendices a copy of the Memorandum and Order issued by the District Court for the Eastern District of Wisconsin in Rexnord, Inc. v. The Laitram Corporation and Intralox, Inc., No. 85-C-1039, (Jan. 28, 1988) in which the court found, citing evidence, that the inventions disclosed in the '141 and '949 patents "revolutionized the industry and warrant[s] pioneer status." CWC does not discuss the "pioneer" question, but says Rexnord issued after the district court's decision in this case and involved a different defendant and a different accused product, neither of which assertions is relevant to whether the invention is of a pioneer nature. Because the district court in the present case did not expressly find the invention either pioneer or non-pioneer, and because the Rexnord Memorandum and Order were not before the district court and are not before this court in this appeal, we deem it unnecessary to treat the"pioneer" question in reaching our conclusions here.

Tank, 339 U.S. at 608, 85 USPQ at 330. Thus it was not necessary that the present inventor be entitled to a broad claim covering "all modular plastic belting with multiple links" before it could be determined that "CAM-CLEAN II, as redesigned, would still infringe."

What counts is the thrust of an amendment and remarks in the prosecution history. Here the amendment added "by a distance slightly greater than said width" and the inventor's remarks described the purpose of such limited spacing (necessarily in cooperation with the rest of elements in the claim) as being to minimize bending and maximize shear. From the absence of any finding that CAM-CLEAN II did not minimize bending and maximize shear, and from the district court's uncontested finding that

the "difference is admittedly small at working loads", and from the district court's uncontested finding that CAM-CLEAN II, even at extraordinary loads, is only "less resistant to bending and elongation forces", and from the district court's effectively uncontested finding that "the belt is not, at operating load significantly weaker," and from CWC's admission that CAM-CLEAN I and II are interchangeable and identically warranted, it can only be concluded that in CAM-CLEAN II bending is minimized and shear is maximized. Nothing in the prosecution history of the '141 patent conflicts in any manner with that conclusion.

(d) Conclusion on the '141 Patent

Every limitation in claim 1, or its equivalent (the spacing in CAM-CLEAN II

being equivalent to "slightly greater"), is thus found in CAM-CLEAN II. Compare Pennwalt, 833 F.2d at 939, 4 USPQ2d at 1743 (means-plus-function claim is not infringed under the doctrine of equivalents when accused device includes no component performing one of functions listed in claim or an equivalent function). The simple fact that the spacing, measured in 1000ths of an inch, is greater in CAM-CLEAN II than in Laitram's commercial product, or greater than in CAM-CLEAN I, or greater than some generalized notion of "slightly", is irrelevant when the spacing is insufficient to move CAM-CLEAN II outside the guidance of Graver Tank. Application of the law governing determination of equivalents to the established facts requires a finding of infringement.

The '949 Patent

Claim 21 reads:

21. A linked belt adapted to move through a circular arc for use in conjunction with a conveyor comb having a plurality of spaced apart parallel teeth, said belt comprising:

a plurality of like modules, each of said modules including a first and second like pluralities of link ends of substantially identical width, each such end being formed to circumscribe a pivotal hole through said width;

means for joining said pluralities to one another so that the axes of said holes of said first plurality are arranged coaxially, the axes of said holes of said second plurality are arranged coaxially and the axes of respective holes of both pluralities of link ends are substantially parallel,

a plurality of spaced apart elongated upstanding vanes mounted on said modules so as to extend in a substantially parallel direction to one another in a direction transversely to the axes of said holes of said both pluralities and protrude substantially perpendicularly from said module;

said link ends being dimensioned and spaced apart by a distance

> slightly greater than said width. said link ends of each of said modules being releasably engaged between the link ends of an adjacent module except for individual link ends disposed at the extreme sides of said belt;
>
> means for pivotally connecting said modules at engaged link ends;
>
> said elongated vanes of each said modules being arranged in staggered relation with respect to the vanes of adjacent modules, said vanes of each module being spaced from one another sufficiently to form a multiplicity of channels lying beneath the upper most surface of said belt when staggered, said channels being adapted to receive said teeth.

It being undisputed that CAM-CLEAN II met each limitation save the fourth after "comprising", the district court focused again on the "slightly greater" limitation in determining non-infringement of claim 21. Recognizing that the prosecution history of the '949 patent contained nothing about spacing, the court cited the prosecution history

of the '141 patent[16] and the inventor's testimony relating thereto in the first trial, to the effect that the purpose of the spacing was to minimize bending and maximize shear. The court found noninfringement, again without reference to the guidance in Graver Tank, concluding:

> So, I think you are estopped to reclaim any broader sense of the claim language in Claim 21, 949 that is readable in claim 1 of 141. Therefore, I find no infringement of Claim 21, 949 because in my judgment the Cam-Clean II as redesigned does not have spacing between adjacent link ends then [sic, that] is only slightly greater than the width of the link

[16]Laitram correctly argues that the prosecution history of the '141 patent cannot in itself create an estoppel in relation to the separate '949 patent for which application was filed more than a year after the '141 patent issued. Ignoring the district court's statement that it did apply the prosecution history of the '141 patent (which it called the "mother" patent), CWC says, incorrectly, that the district court relied only on judicial estoppel in view of the inventor's earlier testimony. In view of our disposition of the appeal, we need not and do not treat these arguments.

ends; and therefore I find no infringement of Claim 21 of 949.

Thus, the district court found noninfringement of the asserted claims of the '141 and '949 patents on the same basis. For the reasons outlined above in respect of claim 1 of the '141 patent, a finding of infringement of claim 21 of the '949 patent is required.

The '341 Patent

(a) The Claim

Claim 1 reads:

> A sprocket and drive shaft assembly for a chain link conveyor belt subject to variations in width comprising, in combination:
>
> a drive shaft with a substantially uniform, noncircular cross section; and
>
> a plurality of sprockets mounted in driven engagement on said shaft for supporting and driving a conveyor belt; one of said sprockets being releasably locked against axial motion to provide for proper belt tracking, all other of said sprockets being free to move axially.

There was in this second trial no question of any "redesign" of CWC's sprockets. The district court stated the '341 patent issue before it:

> The question also is presented with regard to whether the sale of square drive sprockets by CWC and the sale of round bore keyed drive sprockets by CWC constitutes an infringement of Claims 1 and 3 of reissued Patent 341.[17]

(b) Claim Interpretation

In the first trial, CWC admitted that its sale of sprockets constituted contributory infringement and limited its defense to an assertion of invalidity. In holding that CWC had failed to carry

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[17] Infringement of claim 3 was not alleged in the complaint for infringement or on this appeal. It was, apparently, involved in Laitram's motion for a holding of contempt. The court necessarily meant that the question was whether CWC's sale of sprockets constitutes contributory infringement. Because CWC conceded infringement in the first trial, there was no need to prove direct infringement and it was not there necessary for Laitram to prove that a purchaser of CWC sprockets had fixed one and allowed the others to "float".

its burden of sustaining that defense, the district court had this to say about the invention claimed in the '341 patent:

> The essence of patent '341 is the need to maintain a positive drive relationship between the sprocket and the belt while taking into account the lateral expansion in the belt caused by fluctuations in temperature when the belt is put to applications where the product is conveyed from hot to cold or cold to hot areas. This was a problem in practice for Mr. Lapeyre which he satisfied by coming up with the idea embodied in '341, that is fixing the central drive sprocket and allowing the other two or more lateral drive sprockets to float. Additionally, to avoid the problem of loss of a key or shearing of a key (I take judicial notice that keyed devices are frequently subject to having the key sheared and thus losing the drive connection) he came up with the idea of making the shaft on which the sprockets are mounted square. I do find that it was a known principal [sic] at the time this invention was made that a square shaft could be substituted for a keyed round shaft. This was a principle of mechanical design. I also find that Claghorn and Comstock each showed sprocket drive mechanisms that were not all fixed

in position along a drive shaft. However, none of them showed a combination of one fixed and several free floating sprockets, whether mounted on a keyed round shaft or on a square shaft. (Emphasis added).

* * *

Therefore, the notion of the free float of several sprockets, while fixing one central sprocket to maintain positive drive is not disclosed in any of the patents. So, I find that the use of one fixed and severally completely floating unrestrained sprockets was not obvious from the prior art. Furthermore, applying the test of obviousness, that is, that something in the prior art must itself suggest the combination of all the ingredients of the patent I do not find anything in Comstock, Cremona, Claghorn and the prior art cited by the Patent Office that suggests putting together that "one fixed and several free floating" arrangement, together with a non-round shaft. Variations on the non-round shaft have been around for years in one application or another. (Emphasis added).

* * *

With regard to infringement of the '341 patent, it is not contested. The sprocket as manufactured by Cambridge and as taught in their

> engineering devices, has one fixed and several free floating it's [sic] on a square shaft and it clearly, literally infringes.

226 USPQ at 298-99.

In opposing Laitram's motion for contempt, CWC described the invention claimed in the '341 patent:

> The Patent's claims in issue, Claims 1-3, are directed to a sprocket and drive shaft assembly for a chain link conveyor subject to variations in width with the elements comprising a drive shaft of substantially uniform non-circular cross section and a plurality of sprockets mounted in driving engagement on the shaft to drive the conveyor belts, one of the sprockets being releasably locked against axial movement to provide belt tracking and all other sprockets being free to move axially. Thus, the Patent is not directed to square bore sprockets per se, or even the combination of square bore sprockets and square bore shafts. Instead, the Patent covers the specific combination of non-circular bore sprockets and non-circular shaft, one of the sprockets being fixed and the others free to move axially on the shaft. (Emphasis added).

(c) Infringement

CWC sells two types of sprockets, referred to by the district court and CWC as "round bored" and "square bored". A cylindrical keyed shaft was referred to as "round" and "circular". For convenience, we employ the district court's terminology.

In finding that CWC's sales of its "round bored" sprockets did not constitute contributory infringement, the district court said:

> Now, the next question pertinent to the reissue of 341 patent is whether the plaintiff Laitram has proved by a preponderance of the evidence that the sale of sprockets that are to be fitted into a shaft that is essentially round in cross-section but that has rectangular key ways installed -- in particular, the application shows that the -- not the patent application but the practical application -- shows that there are two key ways horizontally opposed around the periphery of the shaft, the round shaft, and that

that is the mechanism that fixes the sprocket into position on the shaft, that transmits the motion of the shaft to the sprocket, and I do find that the plaintiff has not proved by a preponderance of the evidence that this device infringes on reissued Patent 341, even when it is sold in an installation where one of the sprockets is fixed and the other is floating axially along the shaft.

The reason I so hold is that I find that that Laitram is estopped from its position taken and testimony made in a prior trial, as well as my prior findings with regard to this to say that the round shaft with key ways is the functional equivalent of a square board [sic, shaft].

It is evident from Claims 1 and 3 of reissued 341 and also the narrative in column 4 of that patent, especially lines 39 to 43, that the benefit claimed from the square drive is the better transmission of force, which is accomplished by the use of a regular polygon.

Now, certainly there is nothing in the patent that explicitly says that there has to be a regular polygon; and here I am talking about something that does not have circular sides but something with straight sides, like a hexagon or a square. There is nothing in the patent that limits

it to an irregular polygon. The language, in fact, says, substantially uniform in cross-section and noncircular, or words to that effect.

Now, certainly, the round shaft with keys is substantially uniform in cross-section because as you go up and down it, the cross-section is the same. The question is whether it is noncircular. It is true that if you trace a line around the periphery, it is uncircular, but under any practical construction of the patent in light of the testimony of Mr. Lepeyre at the prior trial -- and here I am talking about a transcript, page 59, with regard to keys in a circular shaft or a round shaft, that his idea of a circular shaft includes a circular shaft that has key ways in it or key ways in the shaft to hold keys that transmit the force to the sprocket. That is what he said, and in his judgment that was essentially -- or that, not essentially, that was a circular shaft. His idea is noncircular.

The particular embodiment of it in Claim 3 is square Claim 1 is broader but still noncircular, [sic, and] in my judgment does not cover the round shaft with keys which is a technology that has been known for donkeys' years and, in fact, would not itself be a patentable device and that is quite

obvious; and, further, if you look at my oral opinion in the other case at 299, I indicated in there that the square shaft was adopted for the reason of avoiding the problem of loss of a key or shearing of a key.

And this is consistent with Mr. Lepeyre's testimony and I find that a round shaft with keys is essentially a circular shaft. It is not a noncircular shaft, as that is used in 341, as the inventor himself views what is a circular and noncircular shaft; and I think that the resolution of this is clear and the inventiveness in 341 was putting together the square shaft or other regular polygonal shaft, which gives you a very positive drive mechanism, putting that together with fixing one sprocket and letting others float.

And frankly, I think that it would be a result that would be inequitable and not in conformity with the evidence that has already been laid before the Court and therefore would not be a sustainable result for me to say now, that, oh, yes, well, the circular shaft with keys is the functional equivalent of a square shaft and therefore the circular shaft with keys infringes. That would be an inequitable result and one that is not allowed, given the fact that I think it's fair to

> estop the Plaintiff from adopting that position in light of the history of the 3126 [the first trial] case, the testimony of Mr. Lepeyre in that case, and my findings with regard to this issue. (Emphasis added).

The inventor's testimony described by the court as found in the "transcript, page 59" was this:

> Q. And could you explain the problems that relate to the use of round shafts and tell the Court why you went to a square shaft and the rest?
>
> A. Well in a round shaft, with a sprocket having a round bore, the sprocket in some way must be fastened, prevent it from rotating on the shaft. Otherwise it would be useless as a driving member. Therefore, key seats are cut into the shaft, key seats are cut into the sprockets, keys are put into those key seats. Set screws are put in to hold the keys in position. If any of those parts get loose, or if they fall into the machine you have a devil of a time getting them out, so I didn't like that. Number two, whereas you can make a key sloppy fit into a shaft, it's a poor, it tends to be a poor guide for axial guidance of the sprocket, as the sprocket wants to move along the shaft.

As Laitram correctly points out, the foregoing testimony dealt only with the inventor's reasons for selecting a square shaft and square bored sprockets as his preferred, commercial embodiment. It could not, therefore, estop the inventor from asserting that a keyed cylindrical shaft is the functional equivalent of a square shaft. Similarly, Laitram correctly points out that "column 4 of that patent, especially lines 39 to 43", cited by the court, merely described the preferred embodiment. The entire sentence runs from line 36 to 43 and reads:

> Although other noncircular cross sections such as hexagonal may be employed, the square cross section is preferred because it provides maximum strength coupled with maximum driving force--imparting surfaces and corners, is symmetrical with respect to the rotational axis and lends itself to fabrication simply and easily of a

variety or combination of materials.

That the inventor preferred and adopted commercially a square shaft, because keys tend to fall out of keyed shafts, is not a basis for limiting claim 1 to square or polygonal shafts. References to a preferred embodiment, such as those often present in a specification, are not claim limitations. SRI Int'l. v. Matsushita Elec. Corp. 775 F.2d 1107, 1121, 227 USPQ 577, 589 (Fed. Cir. 1985) (in banc). Such reference is thus not a basis here for limiting "noncircular" to square or regular polygonal shafts.[18]

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[18]The prosecution history of the '341 patent was not discussed by the district court, unlike that of the '141 patent, and does not appear in the appendix presented by the parties on this appeal. CWC does not argue that claim 1 is limited to square or polygonal shafts by the prior art. CWC does argue that the court's earlier decision "inferentially" interpreted the '341 patent to exclude keyed cylindrical shafts, and (without citation to the record) that the inventor's testimony at the first trial

CWC points to a single statement in the inventor's testimony at the first trial (to which the district court made no reference in this case). That statement was that any engineering professor would view a section of the prior art Claghorn shaft as a circular cross section because a keyway has been milled in. The next question in that testimony, however, was directed to whether Claghorn's shaft met the "noncircular" limitation, to which the inventor answered, "It's up in the air, I guess. I would say to bracket that if it's noncircular cross section." Nothing in that testimony would estop the inventor from reliance on the functional equivalency of square and keyed

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distinguished keyed shafts "to save his patent from prior art." Neither argument is sustainable on the record.

cylindrical shafts or from asserting that the sale of keyed cylindrical shafts and round bored sprockets for such shafts, for use in an installation in which one sprocket was fixed on the shaft and the other sprockets were free to float axially, constituted contributory infringement under the doctrine of equivalents.

As above indicated, the district court held in its opinion after the first trial that none of the prior art "showed a combination of one fixed and several free floating sprockets, whether mounted on a keyed round shaft or on a square shaft," and that "it was a known principle . . . that a square shaft could be substituted for a keyed round shaft," and that "variations on the non-round shaft have been around for years in one application

or another," and that "[T]he essence of patent '341 is the need to maintain a positive drive relationship between the sprocket and the belt" in light of expansion caused by temperature fluctuations.[19] Thus, the court, in considering the validity issue, interpreted the claim as drawn to fixed and free floating sprockets on a non-round shaft, without regard to the particular cross sectional shape of the non-round shaft. "Having construed the claims one way for determining their validity, it is axiomatic that the claims must be construed in the same way for

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[19]A keyed shaft obviously provides a positive drive mechanism (at least until the key breaks or falls out) and thus satisfies the "in driven engagement" limitation of the claim. The appendix contains no firm basis on which to evaluate the parties' opposing positions on whether keyed shafts and round bored sprockets were charged to infringe at the first trial, and whether, after the first trial, CWC paid royalties on both types of shafts and sprockets.

infringement." W. L. Gore & Assoc., Inc. v. Garlock, Inc., 842 F.2d 1275, 1279, 6 USPQ2d 1277, 1280 (Fed. Cir. 1988). Here, the district court committed legal error in interpreting claim 1 differently for infringement, i.e., as though it were limited to use of a square or other regular polygonal shaft ("The inventiveness in 341 was putting together the square shaft or other regular polygonal shaft, which gives you a very positive drive mechanism, putting that together with fixing one sprocket and letting others float.").

Claim 3 is limited to a square shaft and claim 6 is limited to a regular polygonal shaft. The doctrine of claim differentiation precludes a reading of those limitations into claim 1 in determining literal infringement.

D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 1574, 225 USPQ 236, 239 (Fed. Cir. 1985). Apart from literal infringement, the district court recognized that a keyed cylindrical shaft is the functional equivalent of a square shaft.[20] It declined, however, to find infringement under the doctrine of equivalents because it felt that that result would be "inequitable". The basis for that view was that it was "fair to estop" Laitram from reliance on the doctrine in light of the history of the prior trial including the inventor's prior testimony. If the

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[20] "[A] square shaft could be substituted for a keyed round shaft"; "whether mounted on a keyed round shaft or on a square shaft"; "Variations on the non-round shaft have been around for years." 226 USPQ at 298, 299. In the first trial, CWC stipulated to infringement without reference to square or keyed shafts and sprockets, CWC's expert testified that keyed and square shafts are obviously functional equivalents, and CWC's counsel repeated that obvious fact in closing argument.

inventor had led the court to sustain claim 1 of the patent in the first trial on the basis that claim 1 must be limited to noncircular shafts that are square or otherwise polygonal in cross section, a judicial estoppel might have precluded any change from that position. Colonial Refrigerated Transp., Inc. v. Mitchell, 403 F.2d 541, 550 (5th Cir. 1968). As above indicated, however, we can find no indication in the record that that is what happened, or could have happened, here.

(d) Conclusion on the '341 Patent

The district court erred in applying the law of contributory infringement when it declined to find that sale of CWC's keyed cylindrical shafts and corresponding sprockets, for use in installations in which one sprocket is

fixed and the others float, constituted contributory infringement of claim 1 of the '341 patent.[21]

2. Contempt

Absent infringement, there cannot be contempt for violating an injunction. KSM Fastening Sys. v. H.A. Jones Co., 776 F.2d 1522, 1528, 227 USPQ 676, 680 (Fed. Cir. 1985).[22] As the district court

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[21]The district court found that Laitram had not proved that CWC was "selling the square drive sprockets in an infringing fashion," based solely on the undocumented testimony of CWC's vice president Bailey that CWC instructed customers to use them in "an installation wherein either all of the sprockets float or all of the sprockets are fixed," even though Bailey admitted that neither such installation would work, that he "wouldn't think that he [the customer] would want to do that," that CWC required no assurance of compliance from customers, and that if a customer wants to use a square drive sprocket, "they are up to their own on that." Laitram supplied no evidence of direct infringement by customers, however, and has not on this appeal challenged the district court's holding that it failed to carry its burden of proving that CWC sold square shafts and square bored sprockets for an installation in which sprockets were both fixed and floating.

[22]CWC sold a square shaft and square bored sprockets to a customer after the injunction was entered. When Laitram charged that sale as a

correctly stated, the standard for proof of infringement is "by a preponderance of the evidence" and the standard for contempt is "by clear and convincing evidence." Having found that Laitram failed its burden under the lesser standard, the court necessarily denied Laitram's motion for contempt in view of the court's noninfringement findings. Those findings having been reversed, remand becomes necessary to enable the district court to exercise its discretion in determining whether CWC's conduct amounted to contempt. See MAC Corp. v. Williams Patent Crusher & Pulverizer Co., 767 F.2d 882, 226 USPQ 515. (Fed. Cir. 1985).

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contempt, CWC submitted an affidavit that it had arranged for return by the customer of the square shaft and square bored sprockets for substitution of keyed shafts and round bored sprockets.

CONCLUSION

The portions of the judgment based on findings that claim 1 of the '141 patent and claim 21 of the '949 patent were not infringed by sales of CAM-CLEAN II, and that claim 1 of the '341 patent was not contributorily infringed by sales of keyed round shafts and round bored sprockets, are reversed. The case is remanded for consideration of the motion for contempt.

REVERSED AND REMANDED

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

88-1209 - 1210

THE LAITRAM CORPORATION and
INTRALOX, INC.,

Plaintiffs-Appellants,

v.

CAMBRIDGE WIRE CLOTH COMPANY,

Defendant-Appellee.

JUDGMENT

On Appeal from the UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MARYLAND

in CASE NO(S). S 83-3126

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED: REVERSED AND REMANDED

ENTERED BY ORDER OF THE COURT

Dated Dec 12 1988 /s/
Francis X. Gindhart,
Clerk

ISSUED AS A MANDATE: February 1, 1989
Costs: Against; Appellee
Printing. $1,980.24
Total 1,980.24

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

88-1209, -1210

THE LAITRAM CORPORATION and
INTRALOX, INC.,

Plaintiffs-Appellants,

v.

CAMBRIDGE WIRE CLOTH COMPANY,

Defendant-Appellee.

Before MARKEY, Chief Judge, NICHOLS, Senior Judge, and RE, Chief Judge.*

O R D E R

A petition for rehearing having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, denied.

*The Honorable Edward D. Re, Chief Judge of the Court of International Trade, sitting by designation.

The suggestion for rehearing in banc is under consideration.

FOR THE COURT

January 25, 1989 /s/
Francis X. Gindhart
Clerk

cc. PAUL H. HAYES
G. FRANKLIN ROTHWELL

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

88-1209, -1210

THE LAITRAM CORPORATION and
INTRALOX, INC.,

Plaintiffs-Appellants,

v.

CAMBRIDGE WIRE CLOTH COMPANY,

Defendant-Appellee.

O R D E R

A suggestion for rehearing in banc having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the suggestion for rehearing in banc be, and same hereby is, declined.

FOR THE COURT

/s/
Francis X. Gindhart
Clerk

Dated: February 9, 1989
cc: PAUL J. HAYES
G. FRANKLIN ROTHWELL
LAITRAM V. CAMBRIDGE, 88-1209, 1210

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

Nos. 83-3126

THE LAITRAM CORPORATION
and INTRALOX, INC.,

Plaintiffs,

v.

CAMBRIDGE WIRE CLOTH COMPANY,

Defendant.

DECIDED: November 12, 1987

Before SMALKIN, Judge.

THE COURT: Having heard the evidence presented today and the arguments of counsel on the motion for contempt in Civil Number S 83-3126, paper number 142, and also in the matter of a preliminary hearing which was advanced with a trial on the merits in Civil Number S 87-939, I now am going to enter an oral opinion

which contains my findings of fact and conclusion of law, whether specifically so denominated or not, pursuant to Federal Rule of Civil Procedure 52. I reserve a right to make any changes or amendment in the opinion, so long as I do not alter the result.

This matter can only be understood in light of the prior history of litigation and background of the patents as discussed in my opinion in Laitram versus Cambridge Wire Cloth Company -- that is, the S 83-3126 case as reported in 226 USPQ 289, opinion rendered March 19, 1985.

We are here today because the Defendant Cambridge Wire Cloth has attempted to redesign its plastic modular belting so that it no longer infringes the patent. I would say that they have

tried everything they could, which attempts were successfully resisted by the Court at the prompting of Mr. Hayes and the counsel for Laitram to get an advisory opinion of the Court prior to committing to manufacture or sale as to whether the redesign continued to infringe the patents.

Here in particular I am talking about the Cam-Clean II modular belting. I am not necessarily addressing -- in connection with redesign -- in fact, not at all in connection with redesign -- addressing the sprocket and drive mechanism.

The issues for decision are whether there has been contempt or there is now infringement in the context of the 939 case of Claim 1 of Patent 141 and Claim 21 of Patent 949 by the redesigned Cam-

Clean II modular belting. The question also is presented with regard to whether the sale of square drive sprockets by CWC and the sale of round bore keyed drive sprockets by CWC constitutes an infringement of Claims 1 and 3 of reissued Patent 341.

First, with regard to what the standard of proof is, the general standard of proof for civil contempt is by clear and convincing evidence. However, I have considered that this case joins for trial essentially that issue with the issue of the infringement substantively raised in Civil Number 939, 87-939; and obviously the burden there is by a preponderance. So I have first addressed the question of whether there is proof by a preponderance that the Cam-Clean II redesign infringes and that the

sale of sprockets infringes 341. Obviously, if there is not proof by a preponderance of the evidence there cannot be proof by clear and convincing evidence since a fortiori.

Turning first to the question of the square bore sprocket and the round bore circular sprocket, I find that the Plaintiff has not proved by a preponderance of the evidence that CWC is, in fact, selling the square drive sprockets in an infringing fashion. I find that the evidence is uncontradicted to the effect that instructions are given to customers that the square drive sprocket is to be used only in conjunction with an installation wherein either all of the sprockets float or all of the sprockets are fixed, and that does not infringe, and I so hold on the basis

of my prior opinion in 226 USPQ at 298-99 where I clearly held that the inventive aspect of the reissue 341 patent was the combination of a square drive sprocket with one fixed and the remainder floating and there cannot be infringement of that patent if the sprocket, square drive sprocket, is sold in the fashion that the uncontradicted evidence shows that it is sold by CWC.

Now the next question pertinent to the reissue of 341 patent is whether the Plaintiff Laitram has proved by a preponderance of the evidence that the sale of sprockets that are to be fitted into a shaft that is essentially round in cross-section but that has rectangular key ways installed -- in particular, the application shows that the -- not the patent application but the practical

application -- shows that there are two key ways horizontally opposed around the periphery of the shaft, the round shaft, and that that is the mechanism that fixes the sprocket into position on the shaft, that transmits the motion of the shaft to the sprocket; and I do find that the Plaintiff has not proved by a preponderance of the evidence that this device infringes on reissued Patent 341, even when it is sold in an installation where one of the sprockets is fixed and the other is floating axially along the shaft.

The reason I so hold is that I find that Laitram is estopped from its position taken and testimony made in a prior trial, as well as my prior findings with regard to this, to say that the

round shaft with key ways is the functional equivalent of a square board.

It is evident from Claims 1 and 3 of reissued 341 and also the narrative in column 4 of that patent, especially lines 39 to 43, that the benefit claimed from the square drive is the better transmission of force, which is accomplished by the use of a regular polygon.

Now, certainly there is nothing in the patent that explicitly says that there has to be a regular polygon; and here I am talking about something that does not have circular sides but something with straight sides, like a hexagon or a square. There is nothing in the patent that limits it to an irregular polygon. The language, in fact, says,

substantially uniform in cross-section and noncircular, or words to that effect.

Now, certainly, the round shaft with keys is substantially uniform in cross-section because as you go up and down it, the cross-section is the same. The question is whether it is noncircular. It is true that if you trace a line around the periphery, it is uncircular; but under any practical construction of the patent in light of the testimony of Mr. Lepeyre at the prior trial -- and here I am talking about a transcript, page 59, with regard to keys in a circular shaft or a round shaft, that his idea of a circular shaft includes a circular shaft that has key ways in it or key ways in the shaft to hold keys that transmit the force to the sprocket. That is what he said, and in his judgment that

was essentially -- or that, not essentially, that was a circular shaft. His idea is noncircular.

The particular embodiment of it in Claim 3 is square. Claim 1 is broader but still noncircular, in my judgment does not cover the round shaft with keys, which is a technology that has been known for donkeys' years and, in fact, would not itself be a patentable device and that is quite obvious; and, furthermore, if you look at my oral opinion in the other case at 299, I indicated in there that the square shaft was adopted for the reason of avoiding the problem of loss of a key or shearing of a key.

And this is consistent with Mr. Lepeyre's testimony and I find that a round shaft with keys is essentially a circular shaft. It is not a noncircular

shaft, as that is used in 341, as the inventor himself views what is a circular and noncircular shaft; and I think that the resolution of this is clear and the inventiveness in 341 was putting together the square shaft or other regular polygonal shaft, which gives you a very positive drive mechanism, putting that together with fixing one sprocket and letting others float.

And frankly I think that it would be a result that would be inequitable and not in conformity with the evidence that has already been laid before the Court and therefore would not be a sustainable result for me to say now, that, oh, yes, well, the circular shaft with keys is the functional equivalent of a square shaft and therefore the circular shaft with keys infringes. That would be an

inequitable result and one that is not allowed, given the fact that I think it's fair to estop the Plaintiff from adopting that position in light of the history of the 3126 case, the testimony of Mr. Lepeyre in that case, and my findings with regard to this issue.

Therefore, I find no infringement of the reissue 341 patent. That is, that the Plaintiff has not proven infringement by a preponderance of the evidence, ergot, the Plaintiff has not proved infringement by clear and convincing evidence; and the Defendant is entitled to prevail with regard to the 341 patent in 83-3126 and 87-939.

Turning to the more vexatious issue and one that has taken up more time and energy of counsel and the Court and witnesses in this case -- there is a

claim that the redesigned Cam-Clean belting, which will be referred to as Cam-Clean II, infringes Claim 1 of Patent 141 and Claim 21 of Patent 949.

I think it is conceded by counsel that unless each and every element of a claim is infringed either literally or by the doctrine of equivalence, there is no infringement. That is, something can infringe three out of four claims and does not infringe. There must be infringement of all claims.

The critical claim here is Claim -- as I said -- 1 of 141, and Claim 21 of 949; and the language is essentially identical that is relevant to the particular issues before the Court. And Claim 1 of 141 in particular the fourth element of Claim 1, it says as follows: "Said link end being dimensioned and spaced apart by a

distance slightly greater than said width --"

Now, I believe that said width refers to -- and I think this is agreed by all counsel -- said width means the width of the link ends themselves.

Continuing the quotation, " -- of the element of the claim so that said module is end to end reversible so that plurality of said modules may be engaged with each other at said ends."

I think it is fair to say that the question in the first trial came down to basically the same issue -- that is, whether the Cam-Clean belting was, in fact, spaced apart by a distance slightly greater than the width of the link ends -- that is, whether the space between the link ends was slightly greater than their

width; and that is what the whole case came down to.

Now, this is discussed in the earlier opinion in 226 USPQ at 297; and it is clear that my decision was based on Mr. Lepeyre's testimony with regard to the reason for having closed spacing of the link ends in his invention. And to view this in context, I must say that the way of this invention was paved with lots of prior art.

That is, Mr. Lepeyre, although he has acknowledged as a pioneer inventor and certainly is the first person that came up with the idea of this plastic modular belting, which is a wonderful idea, nonetheless, he could not make a broad claim that would get through the Patent Office. He tried it. He tried a very broad claim.

For example, as the claim originally came through -- it might take me a minute to find it -- but before it started to get amended, the claim -- the element I am talking about in 141 patent said, "Said links being dimensioned and spaced apart so that said module is end to end reversible."

Now, that is a very broad claim. The patent examiner rejected that and the patent examiner said, look, there is lots of prior art. You have to come in and amend your patent. So, it was amended and in the amendment the spacing language was inserted. So, as to said link ends being dimensioned and said averages slightly greater than said width -- this is -- I am now looking at Amendment A, which was filed with the patent office January 8, 1973.

And a narrative indicates that here at pages 8 to 9, "In the instant invention the link ends are dimensioned and spaced apart by a distance slightly greater than the width of the link ends. As a result, the end sections of the modules fit or are made snugly together and this snug fit contributes significantly to the ability of pivot connected modules to resist deformation due to bending forces across the axes of the pivot pin. The stresses are absorbed largely by adjacent link ends and a little shear is transmitted to the pivot pin. As a result, the strength required for the pivot rod is small as compared with conventional conveyors, with the result of polymeric materials can be used to form the pivot pins as well, thus tending

to eliminate the need to lubricate the belt.

Now, that is not the only comment with regard to this. There are other comments throughout the patent history; and, for example, I turn to the rejection of even the amended patent, and then you have another amendment that was submitted and -- let's see -- received by the Patent Office sometime in -- well, it is dated 3/1/74; and, again, there is talk about the engagement of the link ends providing structural strength to resist bending.

It is admitted that such resistance to bending cannot be provided by a structure in which a large number of modules do not have plurality of link ends but only single link ends. This is at page 14.

Now, granted, that does not directly address the quarrel with prior art; but

the net result of all this was that when you got to trial, Mr. Lepeyre gave his testimony of the purpose for maintaining each of the adjacent link ends slightly greater, as expressed in the claim, and the width of the link end. And here I am talking about his direct testimony, at pages 21 and 22, 23.

He is talking specifically about the planar alignment of the link ends; and, as I read the testimony, he clearly said that you want to get as little exposed space of pivot rod as possible because the link ends exposed pivot rod. You have the link ends bending. You have -- the more shear you have; and the shear resistance is more efficient than bending resistance and is what you want to maximize strength.

This is what he said at the trial and this is what I relied upon to say that what he had was, A, patentable over the prior art and, B, that the Cam-Clean product that was then extant infringed the patent; and the point there was to minimize the bending forces, to maximize the shear and to have as little exposed rod as possible. And this in my judgment is what allowed there to be infringement by equivalence, even though there was not necessarily literal infringement in the first claim patent.

You can physically see that there was a channel of spacing that you could say was more than slightly greater than the width of the link end; but when you drew the tangent lines you could see whether it was six-thousandths or 31-thousandths. There still was a very, very close planar

alignment of the places where the forces were transmitted by the link ends to the pivot rod -- therefore, having practically no opportunity for bending and maximizing shear.

I reject Mr. Hayes's argument that shear is solely a function of the multiplicity of link ends. That argument is disproved by the Poerink design. If shear distribution were solely a function of the multiplicity of link ends without reference to spacing or their engagement in proximity to each other, then there would be no patentability of Lepeyre over Poerink and there would not have been any need to make the amendments in Lepeyre in 141 during the prosecution history to obtain patentability; but clearly it is the closeness of the spacing that is

important with regard to where the forces are transmitted.

This was the pivotal point -- not to make a pun -- in the first opinion, and it still is the pivotal point here. It is true that all that has been done in the redesign of Cam-Clean II is an alteration of the spacing, relative spacing of the link ends.

That is true; but if the result is that when the patent language, the claim language is viewed in context of its prosecution history, as it has to be under the doctrine of equivalents, if the result is that even applying the doctrine of equivalents there is no longer a spacing between links that is only slightly greater than the width of the links, then there is no infringement.

That is all there is to it. It is that simple.

To me the telling proof is made up in two ways. Number one, the tests, in my opinion -- although the difference is admittedly small at working loads, at the higher loads, where you would test to ascertain the true strength of the material -- in my judgment the tests show that the Cam-Clean II is less resistant to the bending and elongation forces than the original Cam-Clean; but that is not really the most important question.

The most important question is, what is the spacing of the redesign Cam-Clean relative to the width of the link ends? Therefore, I had Dr. Butler measure or mike the link ends of the Cam-Clean II; and he ascertained that expressing the spacing as percentage of the link end

width it came to 135.85 percent. That is, there is a 35 percent greater spacing than the width of the link end.

Looking at, at least, the embodiment, the only embodiment we have right now of the Lepeyre 141 -- which in my judgment, as I recall the evidence at the first trial, is the essential embodiment of the invention and certainly is consistent with all of the drawings in the 141 -- that is where the link ends are in substantial contact with each other.

The width between the link ends is only slightly greater. That is true. It is only slightly greater; and "slightly" here is viewed by again taking the spacing as a percentage of the link end width. And when you do that in the Intralox belt it comes to 106.14. So, you only have about a 6 percent greater

spacing that the width of the link end. This is only a slightly greater spacing that the width of the link end.

However, 35 percent is about one-third, which in my judgment is more than slightly greater; and I make that conclusion bearing in mind that this is a matter of judgment. You cannot say slightly greater means .2 but not .3, or 3 but not .06.

You cannot make exactly that determination. It is not exact. It is not scientific. It is a sloppy term; but slightly greater, even though it is a sloppy term, has no meaning for this case outside the claims of Patent 141, as interpreted by the prosecution of that patent in the Patent Office and as interpreted by the prior history of this litigation, including Mr. Lepeyre's

testimony, which is what he won on in the first suit.

Now, if, in fact, Cam-Clean was able to redesign so that now the spacing between adjacent links is now more than slightly greater than the width of the link ends, then they are no longer infringing element 4 of Claim 1 of 141. It is true that the belt is not, at rated operating load, significantly weaker than the original Cam-Clean belt was; and if, in fact, Mr. Lepeyre were entitled to a broad claim here that covered all modular plastic belting with multiple links, then certainly the Cam-Clean II, as redesigned, would still infringe and I would so hold. But he is not entitled to a broad patent.

To get around all the prior art and all the inventions of escalators and toys

and powering belt and to get around all that, he had to narrow his claims very, very significantly in order to obtain a patent and to keep it valid; and in doing that he depended upon this question of shear versus bending. And although Dr. Butler says he does not make much of that and Mr. Hayes now says he does not make much of that as a matter of argument, Mr. Lepeyre made a lot of that at the trial and said, that is the thing makes his invention patentable and it is the thing that makes the Cam-Clean invention infringe, the original Cam-Clean infringe on his, because when you looked at where the shear inventing forces were actually transmitted to the rod, you would find that the spacing was not significantly greater than the width of the link end itself.

Here the percentages, as I said, speak for themselves. Six percent in the Intralox; 35 percent in the Cam-Clean II, as redesigned. And in my judgment this product does not infringe Claim 1 of Patent 141. Therefore, there is no contempt of the judgment in 3126 and I find no infringement proved by a preponderance in the 939 case.

Going on to the raised rib -- that is, Claim 21 of 949 -- the essential element of that claim with regard to the spacing of the link ends is in haec verba with the fourth element of Claim 1 of the 141 patent; and it is true that there is not the same file wrapper estoppel in the 949 patent as there is in the 141's. But the testimony of Mr. Lepeyre, applies pari passu to the 141 and 949 patents with regard to the spacing of the link ends, I

do not think there is any question about that. And, furthermore, since the 949 was an improvement patent -- and I think, Mr. Hayes, you will concede it was an improvement patent on the 141, would you not?

MR. HAYES: No.

THE COURT: You will not concede that?

All right: Well, in my judgment the 949 is an improvement patent on the 141. I can understand why you do not want to concede that. If I were you, maybe I would not either; but anyway, I cannot force you to concede that.

It seems to me that 94 is an improvement on the 141 because it is adapted to combing off objects; but the basic design of the drive mechanism and the force transmissions is the same as between 141 and 949, which is why in my

judgment you cannot broaden the spacing claim of 141 by the fact that there is nothing in the 949 spacing claim that narrows it during the prosecution of the 949 patent itself. That is the narrowing of the mother patent -- I do not know whether that is a term of patent art or not -- anyway, the narrowing of the mother patent that took place in 141, it seems to me, has also got to be applied in an improvement patent of 949.

I do not have the case at my finger tips, but that is common sense.

Also, any doctrine of estoppel would reach that same conclusion. Any common law doctrine of estoppel would reach that same conclusion. So I think you are estopped to reclaim any broader sense of the claim language in Claim 21, 949 that is readable in Claim 1 of 141.

Therefore, I find no infringement of Claim 21, 949 because in my judgment the Cam-Clean II as redesigned does not have spacing between adjacent link ends that is only slightly greater than the width of the link ends; and therefore I find no infringement of Claim 21 of 949.

For those reasons I will deny the motion for contempt on marginal order for reasons stated in open court.

Marginal on 142, motion denied for reasons stated in an oral opinion in open court, this date; and Mr. Clerk I would direct you enter a judgment in 87-939 as follows, that the matter having come on for a preliminary hearing and trial having been consolidated pursuant to Rule 65 and for reasons stated by the Court on the record at the conclusion of the trial and hearing, judgment is rendered for the

Defendant against the Plaintiff. Each side to bear its own costs.

All right. That is my judgment.

35 USCS § 271

§ 271. Infringement of Patent

(a) Except as otherwise provided in this title [35 USCS §§ 1 et seq.], whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or

commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

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35 U.S.C.S. §271(a), (b), (c) (Law Co-op. 1981 & Supp. 1988).

RULES OF CIVIL PROCEDURE

Rule 52. Findings by the Court.

(a) **Effect.** In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon, and judgment shall be entered pursuant to Rule 58; and in granting or refusing interlocutory injunctions and the court shall similarly set forth the findings of fact and conclusions of law which constitute the grounds of its action. Requests for findings are not necessary for purposes of review. Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to

judge of the credibility of the witnesses. The findings of a master, to the extent that the court adopts them, shall be considered as the findings of the court. It will be sufficient if the findings of fact and conclusions of law are stated orally and recorded in open court following the close of the evidence or appear in an opinion or memorandum of decision filed by the court. Findings of fact and conclusions of law are unnecessary on decisions of motions under Rule 12 or 56 or any other motion except as provided in Rule 41(b).

Fed.R.Civ.P. 52(a).

House Report No. 97-312, 97th Cong., 1st Session (1981), pp. 37-38.

Section 119 - Technical Assistants

Chapter 17 of title 28, United States Code, provides for the appointment of employees for the United States courts of appeals.

Section 119 of the bill authorizes the Court of Appeals for the Federal Circuit to appoint technical assistants. The purpose of the provision is to authorize the employment of lawyers who have technical degrees and experience in a scientific or engineering field or in patent law in addition to their legal training. The present Court of Customs and Patent Appeals has made use of such technical advisers for many years. The service of these advisers is identical to that of law clerk, except that they

confer with the judges on technical as well as legal matters.

It is important to understand and appreciate the fundamental difference between the use of technical advisers by the Court of Customs and Patent Appeals judges in the ex parte appeals from the Patent and Trademark Office which they now consider and a similar type of help for judges who are called upon to resolve technical issues in adversary patent infringement cases of the kind that will now be heard by the Court of Appeals for the Federal Circuit.

The use of the technical advisers in the Patent and Trademark Office ex parte appeals is probably necessary, as the judges need help in reviewing and assessing arguments and technical points made by the applicant for patent and the

Patent and Trademark Office examiners. This is so because in many of the appeals presently heard by the Court of Customs and Patent Appeals, and especially in chemical and electronics cases, there is sharp disagreement between the applicant and the examiner regarding the technical subject matter involved and the disclosures of the application in issue and of the patents or publications relied on by the examiner in rejecting the application. Obviously, the judges need the assistance of the advisers in resolving these disputes as to the technical aspects of the appeal.

However, to use these advisers in adversary patent infringement cases and have them review and assess the technical aspects of the evidence, as developed by the sworn testimony of witnesses and as

covered by the findings of fact entered by the trial judge, is quite a different matter. It is well established that factual issues in a patent case must be tried and decided by the trial judge or a jury in precisely the same manner as such issues are tried in any other kind of a lawsuit. The technical aspects of a patent case are factual issues, and patent cases are reviewed in the circuit courts of appeals in the same manner as with other appeals.

Thus, it is the settled practice of the circuit courts of appeals in patent cases to honor and respect Rule 52(a) F.R.Civ.P., which provides that findings of fact may not be set aside unless clearly erroneous, giving due regard to the opportunity of the trial court to judge the credibility of witnesses. The

circuit courts have repeatedly held that it is not their function to pass upon or consider de novo the evidence received at the trial or to weigh controverted evidence. For example, in *Hazeltine Research v. Admiral Corp.*, 183 F.2d 953 (7th Cir. 1950), the court condemned the practice of briefing and arguing patent appeals in nisi prius proceedings and emphasized that its function "on review is no different than in any other kind of case." Where a case might have gone either way, the Seventh Circuit has said it will not ignore the entered findings and that it is not its function to make an independent analysis and determination of the factual issues is controversy. *O'Brien v. O'Brien*, F.2d 254, 255 (7th Cir. 1953).

It should be recognized that technical advisers will not be subject to cross-examination, as are experts called by the parties in an infringement action, and there will be no record of the process by which they evaluate and assess the technical aspects of the evidence covered by the trial court's findings or the jury's verdict. Litigants are entitled to know what their record is and that that record is the record made in the trial court. As was stated by the Supreme Court in *Goldberg v. Kelly*, U.S. 254, 269 (1969).

> where important decisions turn on questions of fact, due process requires an opportunity to confront and cross-examine adverse witnesses.

Thus, while the current standard of review of and practices with respect to ex parte appeals from the Patent and Trademark Office are to be continued by the Court of Appeals for the Federal Circuit, it is the desire of the committee that the judges be sensitive to these due process considerations in their employment of technical advisers when reviewing adversary patent infringement cases.

No. 88-1576

Supreme Court, U.S.
F I L E D
APR 28 1989
JOSEPH F. SPANIOL, JR.
CLERK

In The

Supreme Court Of The United States

October Term, 1988

The Cambridge Wire Cloth Company,
PETITIONER,

v.

The Laitram Corporation and Intralox, Inc.,
RESPONDENTS.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Brief Of Respondents In Opposition To Petition For Writ Of Certiorari

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Question Presented For Review

Should the Supreme Court grant certiorari to review a decision of the Court of Appeals for the Federal Circuit, in which the Federal Circuit reversed the trial court for its failure to follow the applicable patent law and where no significant questions of Federal Law are involved?

Listing of Parties

The parties in this action are the parties identified in the caption hereto. Intralox, Inc., is a wholly owned subsidiary of The Laitram Corporation. These parties constitute the listing of parties required under Rule 28.1.

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STATEMENT OF THE CASE

Contrary to the assertions of Petitioner, The Cambridge Wire Cloth Company (hereinafter "CWC"), the Court of Appeals for the Federal Circuit (hereinafter "CAFC") did not engage in impermissible "de novo fact finding" and did not ignore the clearly erroneous standard in reversing the District Court's decision. As will be apparent, the CAFC accepted the facts found by the District Court and facts which were undisputed by the parties. The CAFC then determined that the District Court misapplied the law to those facts and reversed the District Court's decision. CWC's petition, on its face, urges this Court to disregard the CAFC's express statements that it was accepting the facts ascertained by the trial court, to ignore the appellate court's determination that

the District Court's decision was legally erroneous and clearly erroneous, and to grant CWC's petition based on arguments of counsel unsupported by record citations.

BACKGROUND

In February 1983, CWC introduced a modular plastic conveyor belt to the market place which was designated CAM CLEAN and which is herein referred to as the CAM CLEAN I to differentiate it from a subsequently introduced product known as the CAM CLEAN II. In August 1983, a patent infringement action was brought by the Laitram Corporation and Intralox, Inc. (collectively "Laitram") against CWC for infringement of U.S. Patent Nos. 3,870,141 ("the '141 patent"), 4,051,949 ("the '949 patent"), 4,159,763 (the '763 patent"), and Re. 30,341 ("the '341 patent"). The Laitram Corporation and Intralox,

Inc. v. The Cambridge Wire Cloth Company, 226 USPQ 289, (D. Md. 1985) ("the first litigation"). The '141, '949 and '763 patents related to various modular plastic conveyor belts. The '341 patent related to a sprocket drive system adapted for use in driving modular plastic conveyor belts. Id. A nine-day trial was held in early 1985 in the United States District Court for the District of Maryland. The evidence in the first litigation showed and the court found that during the design of the CAM CLEAN I, CWC sought to incorporate the "best features" of the Laitram '141, '949 and the '763 patents. Id. at 291. The District Court sustained the validity of all four patents and found that the accused CAM CLEAN I modular plastic conveyor belt products of CWC infringed the '141, the '949, and the '763

patents of Laitram. CWC conceded that its sale of non-circular bore sprockets for use on a non-circular shaft constituted contributory infringement of the '341 patent.

CWC appealed the District Court's decision with respect to each patent in suit. By decision of March 3, 1986, the CAFC affirmed the District Court's determination of validity and infringement with respect to all asserted patents. Laitram Corporation v. Cambridge Wire Cloth Co., 785 F.2d 292 (Fed. Cir. 1986). On March 14, 1986, CWC filed a petition for rehearing in banc which was denied by order of April 30, 1986. Thereafter, on May 30, 1986, CWC filed a Petition for Writ of Certiorari for review of the CAFC's decision in the first litigation. CWC's first petition was denied by this Court on October 6, 1986.

In early 1986, via a motion to modify the existing injunction, CWC sought an advisory opinion of noninfringement from the District Court with respect to certain designs proposed by CWC. Contrary to the assertions of CWC in its brief, the proposed design was not the CAM CLEAN II. The court properly denied CWC's motion to modify the injunction because of the "hypothetical nature" of the modifications proposed by CWC, because no production runs had been made and because Laitram had not threatened CWC with litigation with respect to this hypothetical proposed design. Laitram Corporation v. Cambridge Wire Cloth Co., 231 USPQ 153 (D. Md. 1986).

In November 1986, CWC filed an action against Laitram seeking a declaratory judgment that yet another design proposed by CWC did not

infringe. The District Court dismissed the action as premature because any opinion by the Court would again be advisory and because CWC did not have a reasonable apprehension of suit. The Cambridge Wire Cloth Company v. The Laitram Corporation, 679 F. Supp. 515 (D. Md. 1987).

Subsequently, CWC commenced the manufacture and sale of a second modular plastic conveyor belt which was designated CAM CLEAN II. After obtaining samples of the CAM CLEAN II product and analyzing such product, Laitram promptly filed an action for infringement of the '141 and the '949 patents.[1] The only difference

[1] CWC's allegations regarding the non-assertion of the patents in the earlier litigation are misleading (Petition, 39). CWC did not advise Laitram of certain products it now alleges to have been in existence in 1985.

between the CAM CLEAN II product and the CAM CLEAN I product previously held to infringe with respect to the asserted claims was a de minimis decrease in the width of the link ends in the CAM CLEAN II product. More specifically, in the CAM CLEAN II modules, CWC shaved off 11/1000 inch from the faces of the link ends (Appendix, 19a).[2]

At the trial of the present action, CWC contended that the CAM CLEAN II did not infringe because allegedly, the de minimis increase in the spacing between the link ends resulting from the shaving of 11/1000 inch off the faces of the link ends produced a product which did not have a spacing between link ends "slightly

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[2] The Appendix is appended to CWC's brief. Reference is by page. CWC's Appendix spans pages 1a-98a.

greater than the width of the link ends" as called for in claim 1 of the '141 patent and claim 21 of the '949 patent. Additionally, notwithstanding the prior judgment precluding the sale of non-circular shafts for use with non-circular bore sprockets wherein one sprocket is fixed to the shaft and others allowed to float axially on the shaft, CWC sold keyed shafts and keyed sprockets for use with such shafts precisely as described in claim 1 of the '341 patent. CWC contended at trial that keyed bore sprockets were not "non-circular" within the scope of claim 1 of the '341 patent.

On appeal, as expressly stated by the CAFC, the basic facts were either undisputed or were accepted as found by the District Court (Appendix, 8a). The undisputed evidence based upon the testimony of CWC's witnesses with

respect to the CAM CLEAN II demonstrated the following:

a) the spacing between the link ends of the CAM CLEAN II was .080 inch (Appendix, 23a);

b) the extent of the redesign of the CAM CLEAN II with respect to claim 1 of the '141 patent and claim 21 of the '949 patent was the shaving of 11/1000 inch off the link ends of the CAM CLEAN I (Appendix, 19a);

c) the CAM CLEAN II performed substantially the same function to achieve the same result as the CAM CLEAN I (Appendix, 19a);

d) CWC sold the CAM CLEAN II as interchangeable replacements for the CAM CLEAN I (Appendix, 19a);

e) CWC warranted the CAM CLEAN II for use at the same maximum working strength (1550 lbs/ft) as CAM CLEAN I (Appendix, 19a); and

f) the difference in the elongation of the CAM CLEAN II versus the CAM CLEAN I at working loads was less than one-fifth the width of a human hair (Appendix, 16a).

It is emphasized that while CWC presently contends that the District Court engaged in "fact finding" and did not have the opportunity to assess the credibility of the witnesses, all of the above facts were established in the District Court and were based upon the testimony of CWC's witnesses.

Following a six-hour trial on November 12, 1987, the District Court judge dictated his decision off the bench. The District Court misapplied the law governing infringement under the doctrine of equivalents (Appendix, 11a) and thus rendered a noninfringement decision which was legally flawed (Appendix, 14a). More

specifically, as noted by the appellate court, having determined that all CWC did with respect to the CAM CLEAN II was to slightly alter the link end spacing, the District Court did not apply its own criterion derived from the prosecution history in the first trial (Appendix, 14a). Because the District Court did not properly apply the law governing infringement under the doctrine of equivalents, the District Court's ultimate findings of noninfringement with respect to claim 1 of the '141 patent and claim 21 of the '949 patent were legally erroneous and clearly erroneous (Appendix, 11a). Additionally, the District Court ignored the clear language of claim 1 of the '341 patent and improperly read into that claim limitations of a dependent claim. Laitram thereafter appealed these legal errors.

Contrary to the assertion of CWC that the CAFC engaged in "fact finding," the CAFC expressly stated in its opinion:

> The basic facts are either undisputed or are accepted here as found by the District Court. The difficulty with the appealed judgment lies in the District Court's application to the facts of the law governing determinations of infringement.

Appendix, 8a. Thus, the appellate court expressly noted that it was taking exception to the District Court's application of the law and was not engaged in "fact finding" as CWC would have this Court believe.

REASONS WHY THE PETITION SHOULD BE DENIED

A. No Issues Of Legal Significance Are Presented

CWC's Petition involves no important question of federal law. The Court of Appeals for the Federal Circuit is not in conflict with other

circuits. CWC's contention for its Petition for Writ of Certiorari is that the CAFC engaged in impermissible fact finding. As will be shown, this assertion is incorrect. The CAFC has not departed from the usual and accepted course of judicial proceedings, either as set forth in Rule 52(a) of the Federal Rules of Civil Procedure or as established by this Court. Accordingly, the exercise of this Court's supervisory powers are unwarranted in this case.

B. The Court Of Appeals For The Federal Circuit Did Not Engage In Fact Finding

CWC argues that the CAFC's rejection of the trial court's decision is not based on legal error, but rather on the CAFC's own fact finding. This assertion is specious. The CAFC's reversal, as is apparent from its opinion, was based solely on the

District Court's misapplication of the law to the facts (Appendix, 8a, 14a, 27a, 42a, 46a, 48a). Errors of law by the District Court are not reviewed under the clearly erroneous standard. Bose Corp. v. Consumers Union of the United States, 466 U.S. 485, 501 (1984).

The CAFC explicitly relied only on facts that were undisputed or were found by the District Court (Appendix, 8a, 12a, 19a-20a, 25a-26a, 47a). The CAFC reversed only the District Court's ultimate conclusion of infringement, a conclusion which, as the CAFC stated and showed, was clearly erroneous in light of the District Court's misapplication of the law (Appendix, 8a, 11a, 14a, 27a).

1. Infringement of the '141 and '949 Patents

At issue in this case is whether CWC's CAM-CLEAN II infringed claim 1 of

Laitram's '141 patent and claim 21 of Laitram's '949 patent. CWC conceded that the CAM-CLEAN II met every limitation in the claims except for the limitation present in both asserted claims requiring the link end spacing to be "slightly greater" than the width of the link ends (Appendix, 69a-70a). As the CAFC clearly indicated, the District Court's ultimate conclusion was based on a misapplication of the law of the doctrine of equivalents to the facts (Appendix, 8a, 11a, 14a, 27a).

Under the law of the doctrine of equivalents, a product infringes a patent if the product "performs substantially the same function in substantially the same way to obtain the same result." Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 608 (1950). To determine equivalents the District Court must

consider "the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform." Id. at 609.

As the CAFC noted, the District Court determined that the spacing limitation in the claims had the purpose of minimizing bending and maximizing shear (Appendix, 72a, 75a). Other facts, either found by the District Court or undisputed by the parties, clearly demonstrated that the spacing in the CAM-CLEAN II also functioned to minimize bending and maximize shear (Appendix, 25a-26a). Despite these facts, the District Court failed to apply the criteria of "minimizing bending and maximizing shear" to the CAM-CLEAN II. Rather, the District Court improperly

equated literal infringement with infringement under the doctrine of equivalents. The District Court erroneously concluded:

> [I]f the result is that even applying the doctrine of equivalents there is no longer a spacing between links that is only slightly greater than the width of the links, then there is no infringement.

Appendix, 77a.

This statement demonstrates the District Court's failure to apply the law of the doctrine of equivalents to the facts. The District Court ignored all the evidence of equivalence and did not explain how the facts show that the CAM-CLEAN II did not minimize bending and maximize shear. The District Court thus committed an error of law warranting correction by the appellate court. United States v. United States Gypsum Co., 333 U.S. 364, 394 (1948) (the Supreme Court may correct errors

of law made by the District Court due to misapplication of the law set forth in earlier Supreme Court cases).

CWC argues that the CAFC engaged in fact finding in this case by setting aside the District Court's facts and substituting its own. However, beyond some conclusory statements that reversal of the District Court's ultimate conclusion of noninfringement constitutes a substitution of the CAFC's facts for the District Court's facts, CWC has not pointed to any facts which the CAFC supposedly found. Rather, CWC attempts to distort the "facts" in an effort to support its "fact finding" theory.

As an example of this distortion, CWC states that "the trial court found as a fact that the accused device did not minimize bending and maximize shear. . . ." CWC's Petition, 27-28

(emphasis in original). CWC's Petition, however, conspicuously lacks a citation to the District Court's opinion for this alleged "fact." In actuality, nowhere in its opinion did the District Court "find as a fact that the accused device did not minimize bending and maximize shear."

CWC appears to base its contention for this "fact" on the following reasoning. As stated by CWC:

> A factual determination that the distance was more than "slightly greater" was a determination that the accused device did not operate "substantially in the same way" as the device in the patent, i.e., its operation did not rely on a distance which was "slightly greater."

CWC's Petition, 27. As is apparent, CWC's reasoning is logically circuitous and begs the question. CWC starts by assuming the conclusion of literal infringement -- the spacing is more

than "slightly greater" -- from which it then infers the premise that the CAM CLEAN II must not minimize bending and maximize shear. However, under a proper application of the doctrine of equivalents, the determination of whether the CAM CLEAN II minimizes bending and maximizes shear must first occur.

The missing link in CWC's argument is how the spacing in the CAM-CLEAN II fails to minimize bending and maximize shear. CWC has not supplied, nor can it supply, this missing link because the facts require the opposite conclusion. As the CAFC explicitly states in its opinion, application of the law of the doctrine of equivalents to the facts which are undisputed or were found by the District Court shows that the spacing in the CAM-CLEAN II does minimize bending and maximize

shear:

> From the absence of any finding that CAM-CLEAN II did not minimize bending and maximize shear, and from the district court's uncontested finding that the "difference is admittedly small at working loads", and from the district court's uncontested finding that CAM-CLEAN II, even at extraordinary loads, is only "less resistant to bending and elongation forces", and from the district court's effectively uncontested finding that "the belt is not, at operating load significantly weaker," and from CWC's admission that CAM-CLEAN I and II are interchangeable and identically warranted, it can only be concluded that in CAM-CLEAN II bending is minimized and shear is maximized.

Appendix, 25a-26a (emphasis added).

CWC also argues that "the trial court was clearly impressed with the differences between the accused and patented devices . . . . These differences formed a basis for a finding of noninfringement under the doctrine of equivalents." CWC's

showing keyed shafts (Appendix, 44a-45a).[3]

Contrary to the assertions of CWC, the CAFC's opinion is clearly based on the trial record which indicates unequivocally that the inventor's testimony was directed to the preferred embodiment and could not, as a matter of law, create an estoppel (Appendix, 41a). Further, the '341 patent clearly indicates a square shaft is a preferred embodiment but not the only embodiment. Given these undisputed facts, CWC's conclusory and, in fact, contradictory interpretation of the District Court's holding and criticism

[3] In this regard, CWC's footnote 5 at page 18 of its Petition is misleading. CWC conceded that its non-circular bore sprocket when used in a manner described in claim 1 contributorily infringed and the judgment precluded the sale of non-circular bore sprockets for use in an infringing manner.

Petition, 26-27 (emphasis added). This statement advocates erroneous law. It is settled law that infringement is determined by comparing the accused device to the patent's claims, not to a commercial embodiment of the patented invention. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1578 (Fed. Cir. 1984).

CWC spends over six pages of its Petition arguing that the CAFC's criticism of certain tests of the CAM-CLEAN II was fact finding. CWC argues that the District Court based its "finding" that the CAM-CLEAN II did not minimize bending and maximize shear on these "tests". Regarding these tests, however, the District Court stated only that "the tests show that the CAM-CLEAN II is less resistant to the bending and elongation forces than the original CAM-CLEAN." Appendix, 78a

(emphasis added). As the CAFC pointed out:

> CWC asserts, and cites evidence to show only that the CAM-CLEAN II is less efficient, i.e., that it does not minimize bending and maximize shear quite as much as the claimed invention does. Assuming arguendo the truth of that assertion, it cannot alone prevent a finding of infringement under the doctrine of equivalents.

Appendix, 18a (emphasis in original). The law is clear that imperfect practice of an invention still constitutes infringement. Paper Converting Machine Co. v. Magna-Graphics Corp., 745 F.2d 11, 20(Fed. Cir. 1984). Thus, the CAFC merely pointed out the legal irrelevancy of the tests to the application of the doctrine of equivalents. This is not fact finding.

Similarly flawed is CWC's assertion that the CAFC failed to give

weight to the District Court's judgment of the witnesses' credibility. CWC fails to apprise the Court that the evidence referred to by the CAFC involved the testimony of CWC's own witnesses regarding the tests on the CAM CLEAN II (Petition, 35-36, Appendix, 19a). Moreover, the CAFC did not dispute the testimony of these witnesses. Instead, the CAFC simply pointed out why their testimony could not support a finding of noninfringement as a matter of law (Appendix, 15a-16a).

2. Infringement of the '341 Patent

A second issue in this case is whether the sale of keyed bore sprockets for use on a keyed shaft as described in claim 1 of the '341 patent constituted contributory infringement. The CAFC reversed the District Court's determination that Laitram was estopped

from asserting its patent against sprockets for use on keyed shafts because the inventor of the '341 patent had testified that square shafts were preferable to keyed shafts in use. CWC again argues that the Federal Circuit engaged in fact finding in reversing the District Court.

First, CWC ignores the District Court's holding in its patent validity determination during the first litigation that square shafts were the full functional equivalent of keyed shafts (Appendix, 44a). It is legal error for the District Court to interpret the claims one way in the earlier trial for determining validity and to interpret the claims another way in the second trial for determining infringement. W. L. Gore & Assoc. Inc. v. Garlock Inc., 842 F.2d 1275, 1279 (Fed. Cir. 1988). The CAFC

properly reversed the District Court for this legal error (Appendix, 46a).

In addition, CWC's statement that a determination of patent infringement is a question of fact is simplistic and misleading (CWC's Petition, 16). A determination of infringement involves a two step process. First, the claims must be construed. Claim construction is a question of law. Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 758 (Fed. Cir. 1984). Only then may the trier of fact apply the claims as construed to the accused device. Id. In the present case, the District Court committed an error of law in construing the claims by improperly reading into claim 1 limitations not present.

In addition, the District Court committed legal error by limiting the patent's protection to the preferred embodiment of the invention. The

District Court held that Laitram was estopped from asserting that a keyed shaft was the functional equivalent of a square shaft, simply because the inventor had described a square shaft as the preferred embodiment for commercial exploitation. CWC argues without any citation to the trial record that the CAFC engaged in "fact finding" by determining that the inventor's testimony was directed toward the preferred embodiment (Petition, 18). As previously noted, this is contrary to the express statement of the CAFC that it was adopting the facts found by the trial court (Appendix, 8a, 44a-47a). CWC's argument also is in conflict with the District Court's finding in the first litigation that keyed and square shafts were functional equivalents and the '341 patent was valid despite prior art

of the CAFC's decision, without any supporting record evidence, must fail.

CONCLUSION

In an attempt to justify the present petition, CWC ignores the appealed issues, ignores the appellate court's decision which expressly considers each of the legal errors committed by the trial court and attempts to recast the issues before this Court as "fact finding" or credibility questions to create a reviewable issue.

The CAFC, based on the facts found by the District Court, determined that the District Court had misapplied the applicable law and that the District Court's ultimate findings of noninfringement were legally erroneous. Legal errors are not reviewed under the clearly erroneous standard. Moreover, the CAFC held that

the District Court's decision was clearly erroneous. Given the CAFC's express statements that the facts involved were either accepted as found by the District Court or undisputed and given the CAFC's detailed decision setting forth the legal errors in the District Court's decision, CWC's present petition is frivolous.

For the above reasons, Laitram respectfully submits that CWC's Petition for Writ of Certiorari should be denied.

Respectfully submitted,
this 28th day of April, 1989.

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No. 88-1576

IN THE

Supreme Court of the United States

OCTOBER TERM, 1988

THE CAMBRIDGE WIRE CLOTH COMPANY,
Petitioner,

v.

THE LAITRAM CORPORATION and INTRALOX, INC.,
Respondents.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITIONER'S REPLY TO BRIEF OF RESPONDENTS IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

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Introduction

Petitioner, The Cambridge Wire Cloth Company (hereafter "CWC") offers this reply to the opposition of the Laitram Corporation and Intralox, Inc. (hereafter collectively "Laitram"), to CWC's Petition for Writ of Certiorari.

The issue before this Court concerns the consequences of the failure of the Court of Appeals for the Federal Circuit (hereinafter "Federal Circuit") to follow the standards of Fed. R. Civ. P. 52(a). Enforcement of the standards of appellate review is especially critical in view of the Federal Circuit's unique jurisdictional role as the sole appellate interpreter of all cases arising under the patent laws. Laitram's main argument is that the Federal Circuit made express statements that the facts found at trial by the District Court were accepted by the Federal Circuit. (Laitram's brief,

1, 8, 12, 27 and 30). Laitram's argument obviously completely ignores the important standards of judicial review at risk. Simply because the Federal Circuit stated that it was accepting facts found by the District Court does not make it so. The Federal Circuit's decision should be judged by what it does, not by what it says it does. CWC's request that a writ of certiorari be granted is important for precisely this reason: if the Federal Circuit, or any appeals court, may decide cases without regard for Rule 52 of the Rules of Civil Procedure merely by stating that there are no disputed facts, the judicial system will be subject to the whim of any appellate court choosing to reverse a trial court by finding facts and then covering its tracks by stating that facts are not disputed. More particularly, the

patent system, which relies heavily on the interpretations of law issuing from the Federal Circuit, would be greatly damaged if decisions of the Federal Circuit could be made without regard for the appropriate standards. The Federal Circuit panel that decided this case cast aside the findings of the District Court under the guise of legal error, and, without regard to Fed. R. Civ. P. 52(a), based their decision on facts found, not by the trial court, but by the panel itself. This was clear misuse of the appellate process, and cannot be condoned simply because what the panel said it did is contrary to what it in fact did.

CWC Has Shown That The Federal Circuit Found Facts In Contravention of Fed. R. Civ. P. 52(a)

According to Laitram, CWC's petition is "frivolous" merely because the Federal Circuit made express statements that the

facts involved were either undisputed or accepted as found by the District Court and because the Federal Circuit's opinion appears to set forth the purported legal errors in the District Court's decision. (Laitram's brief, 30). If this were true, then all a court of appeals needs to do when it disagrees with the findings of fact as determined by the trial court, is to say that the facts are undisputed or accepted as found by the trial court and then proceed to make decisions as to the probative value of conflicting evidence on the facts without following the Rules of Civil Procedure. This is what actually happened below and the purpose of Fed. R. Civ. P. 52(a) was completely thwarted by such a result. As the rule plainly states:

> Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses....

Fed. R. Civ. P. 52(a) (appendix, 90a-91a).

In its Petition, CWC pointed out the findings of fact made by the Federal Circuit panel without following this standard and these findings are further illustrated below.

The Court of Appeals for the Federal Circuit's Fact Finding in the Determination of Infringement of the '141 and '949 Patents

Laitram insists that CWC made a de minimis decrease in the width of the link ends in the CAM-CLEAN II product when CWC decreased the width by 11/1000 inch. Whether the changes made to CAM-CLEAN II were "de minimis" is a factual determination to be made by the trial court. Obviously, the trial court found

that the changes made to CAM-CLEAN II were sufficiently substantial that the product did not infringe. In point of fact, all four surfaces of the link ends were decreased by this amount and the resulting link ends were spaced apart by an amount 35% greater than the width. Despite the small amounts, this change clearly was not de minimis when viewed in the context of the distances involved. The trial court held that the 35% greater spacing which resulted from the changes made in CAM-CLEAN II was not merely "slightly greater" as required.

Judge Smalkin, the trial judge, was familiar with the facts relating to the issues involved. Since the device had greater spacing than CAM-CLEAN I, the issue of literal infringement did not arise. Moreover, since the decision on CAM-CLEAN I in the prior trial was based

on the doctrine of equivalents, Judge Smalkin was aware that CAM-CLEAN II had to maximize shear and minimize bending to infringe under the doctrine of equivalents. The additional spacing resulted in a product which does not minimize bending and maximize shear and thus, does not infringe Laitram's patents.

By taking the District Court's findings out of context and ignoring obvious inferences present in the trial court's oral opinion, the Federal Circuit panel managed to substitute its own findings of fact for those of the trial court.

> From the absence of any finding that CAM-CLEAN II did not minimize bending and maximize shear, and from the district court's uncontested finding that the "difference is admittedly small at working loads", and from the district court's uncontested finding that CAM-CLEAN II, even at

> extraordinary loads, is only "less resistant to bending and elongation forces", and from the district court's effectively uncontested finding that "the belt is not, at operating load significantly weaker," and from CWC's admission that CAM-CLEAN I and II are interchangeable and identically warranted, it can only be concluded that in CAM-CLEAN II bending is minimized and shear is maximized.

Appendix, 25a-26a.

First, the trial court had to have made a finding on whether or not CAM-CLEAN II minimizes bending and maximizes shear or it could not have reached its decision on non-infringement. Laitram states that the District Court ignored all the evidence of equivalence and did not explain how the facts show that CAM-CLEAN II did not minimize bending and maximize shear. (Laitram's brief, 17). This statement is contrary to the plain meaning of the trial court's opinion.

Judge Smalkin found that at the higher loads, where one tests to ascertain the true strength of a material, CAM-CLEAN II is less resistant to the bending and elongation forces than the original CAM-CLEAN. (Appendix, 78a). The trial court goes on to state that there is a 35% greater spacing than the width of the link end and this is more than slightly greater. (Appendix, 80a). The Federal Circuit opinion, cited above, ignores these findings and plainly substitutes its own findings. The "uncontested finding that the `difference is admittedly small at working loads'" is irrelevant since the trial court found as a fact that this difference is meaningless and that these devices are not tested at working loads. At the loads the devices are normally tested, CAM-CLEAN II is "less resistant," not

"only less resistant," as found by the Federal Circuit. (Emphasis added).

Other "uncontested findings" on the tests performed were listed by the Federal Circuit and used by the panel to make a factual determination that in CAM-CLEAN II bending is minimized and shear is maximized. These "uncontested" findings were found by the trial court to show that CAM-CLEAN II does not minimize bending and maximize shear. The panel, however, dismissed the tests as "non-probative" (clearly an impermissible interpretation of evidence by an appellate court) and reached their own conclusion without any mention of Rule 52(a). Whether or not the tests were probative to show minimized bending and maximized shear was a finding for the trial court only, unless its findings

were clearly erroneous as provided in Fed. R. Civ. P. 52(a).

If the panel believed that the facts necessary to a determination of an issue were not found by the trial court, at most, it should have vacated in view of that perceived legal error and remanded for the district court to make the missing findings. *Panduit Corp. v. Dennison Manufacturing Co.*, 810 F.2d 1561, 1565 (Fed. Cir. 1987). Instead, without following the proper standards of appellate review, the Federal Circuit found facts not found by the trial court or relied on facts which were not relied on as probative by the trial court to find CAM-CLEAN II infringed the Laitram patents.

The Court of Appeals for the Federal Circuit's Fact Finding in the Determination of Infringement of the '341 Patent

The question before the trial court regarding the '341 patent was whether CWC's sale of CAM-CLEAN II with a circular shaft with keyways constituted contributory infringement of claim 1 of the '341 patent under the doctrine of equivalents. In its argument on this issue, Laitram provides the perfect example of the illogical result of its assertion that the parties must accept, apparently without question, the Federal Circuit's statement that it accepted the facts as found by the trial court. CWC argued in its petition that the Federal Circuit engaged in fact finding by determining that the inventor's testimony was directed to the preferred embodiment. (Petition, 22). Laitram accuses CWC of

making this argument without citing to the trial record and asserts that CWC's argument is contrary to the express statement of the Federal Circuit that it was adopting the facts found by the trial court. (Laitram's brief, 27). However, CWC does not cite to the trial record because the facts found by the trial court make no mention of the inventor discussing the preferred embodiment. (Appendix, 64a-66a). This factual finding was made solely by the appellate panel. (Appendix, 41a). However, if Laitram's argument is to be believed, the parties should acquiesce in the Federal Circuit's statement that it accepted the trial court's finding and not object to the panel's own fact finding. This is nonsense since the panel did not hear the testimony or see the witness; yet the panel determined as a fact what the

inventor testified to at the 1985 trial. This absurd result illustrates the need for Supreme Court supervision of appellate review so that the appropriate standards are followed and appellate courts do not stray beyond the accepted and usual course of judicial proceedings, as clearly occurred in this case.

Laitram further states that the District Court held that Laitram was estopped from asserting that a keyed shaft was the functional equivalent of a square shaft, simply because the inventor had described a square shaft as the preferred embodiment for commercial exploitation. (Laitram's brief, 27). This was not the holding of the District Court; rather, this was a finding of the Federal Circuit based upon its own impermissible fact finding. The holding of the trial court stated:

> The particular embodiment of it in Claim 3 is square. Claim 1 is broader but still noncircular, in my judgment does not cover the round shaft with keys, which is a technology that has been known for donkeys' years and, in fact, would not itself be a patentable device and that is quite obvious; and, furthermore, if you look at my oral opinion in the other case at 299, I indicated in there that the square shaft was adopted for the reason of avoiding the problem of loss of a key or shearing of a key.
>
> And this is consistent with Mr. Lepeyre's testimony and I find that a round shaft with keys is essentially a circular shaft. It is not a noncircular shaft, as that is used in '341, as the inventor himself views what is a circular and noncircular shaft; and I think that the resolution of this is clear and the inventiveness in 341 was putting together the square shaft or other regular polygonal shaft, which gives you a very positive drive mechanism, putting that together with fixing one sprocket and letting others float.

Appendix, 65a-66a.

Thus, the trial court's decision was based on a determination of what constitutes a noncircular shaft, as opposed to a circular shaft. The fact as found by the trial court was that the inventor himself distinguished the circular shaft with keyways from the noncircular shaft of the invention during the 1985 trial and, thus, was estopped from making the argument that a circular shaft with keyways was noncircular in the later trial. As distinguished from the facts found by the trial court, the Federal Circuit substituted its own finding of fact that the inventor was only discussing square bore shafts and, thus, could not be estopped in the later trial from making the argument that a circular shaft with keyways was noncircular.

This example emphasizes the considerable problems which arise when an appellate court does not follow the standards of review set forth in the Federal Rules of Civil Procedure and the case law of the Supreme Court. In essence, the panel has determined the outcome of this case without the benefit of hearing and seeing the demeanor of the witnesses in each of the trials. The Federal Circuit's rejection of the findings of the trial court were clearly not based on legal issues, and the standards of review plainly do not entitle a reviewing court to reverse the findings of the trier of fact simply because it is convinced that it would have decided the case differently. *Anderson v. City of Bessemer City, North Carolina*, 470 U.S. 564, 573 (1985).

CONCLUSION

This Court should review this case because of the importance of the issue presented in light of the special position of the Federal Circuit as the sole arbiter of patent cases. An appellate court must follow the appropriate standards of review to maintain consistency in decision making. Laitram's arguments simply cannot stand in view of the many facts which were determined by the trial court in the present case, discarded by the panel and then replaced by opposing facts as found by the Court of Appeals for the Federal Circuit.

CWC respectfully requests that its Petition for Writ of Certiorari be granted.

Respectfully submitted,
this 8th day of May, 1989

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